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THE GRAPHIC ART OF THE ESKIMOS.

BASED UPON THE COLLECTIONS IN THE NATIONAL MUSEUM.

BY

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INTRODUCTION.

In the selection of appropriate materials upon which to inscribe his thoughts, primitive man was governed to a great extent by his environment.

In a country abounding in rocks and cliffs, it was but natural for him to portray upon a smooth conspicuous surface the record of an exploit, or a character to direct his companions on the right trail or to a convenient camping place. In that portion of the West known as the "Great Plains," rock pictures are of seldom occurrence. The numerous tribes of many different languages were hunters of the buffalo, and in their frequent movements from place to place found the skin of that animal, as well as that of the deer, the most convenient. Along the shores of the Great Lakes, where the white birch is of frequent occurrence, the Indians employ the bark of this tree for their mnemonic and other records. The bark, when fresh, is tough, and retains permanently the slightest markings indented or incised upon it by means of a sharply pointed bone or nail.

Various Indian tribes employ, also, other substances, such as bone, wood, and various arrangements of shell beads, as well as feathers and textile substances, to convey special forms of information.[1]

The Innuit or Eskimo of Alaska utilize the tusks of the walrus, and in occasional instances the horns of the reindeer. The tusks are cut longitudinally into rods, upon the faces of which delicate engravings or etchings are made, the depressions or incisions thus produced being filled with black or some other color so as to heighten the effect.

The Eskimo of Greenland, Labrador, and the remaining portions of the Arctic regions east of the delta of the Mackenzie River, use flat pieces of wood upon which to exercise their more primitive skill at art ornamentation. Although ivory is abundant in some portions of the Melville Peninsula, yet it appears generally absent in the collections from that region.

[1] For details and history of pictography, see the writer's "Beginnings of Writing." D. Appleton & Co., New York, 1895.

While the accompanying paper is based chiefly upon the collection in the United States National Museum, quite a number of valuable data were found in the interesting collection of ivory records in the museum of the Alaska Commercial Company in San Francisco, California.

In addition to these two sources of information, the writer was so fortunate as to have the services in San Francisco of a native Alaskan half caste, who had for a number of years been in the employ of the Commercial Company. This man had spent most of his life in traveling among the various settlements of southern Alaska, chiefly for the purpose of securing furs and peltries in exchange for goods desired by the natives. Vladimir Naomoff, in addition to his thorough familiarity with the Russian and English language, was fluent in five or six native dialects. His keen observation of the habits of the people of the mainland, and their various methods of conveying information by recording on different materials their thoughts, enabled him to interpret with ease the numerous records in the museum referred to; and he also prepared a number of sketches in imitation of records which he had observed, and which he had been instructed to prepare and deposit at habitations at which he had called during the absence of the regular occupants or owners.

The primary studies relating to the subject of the interpretation of pictographs were begun by the writer in 1871; and but limited progress was made until the year 1879, when the Bureau of Ethnology was organized and furnished the facility necessary to officially conduct investigations among the various Indian tribes of the United States and British Columbia, and to visit nearly all known pictographs and petroglyphs in order to make personal investigations, comparisons, and to secure tracings and sketches thereof.

In addition to these researches in pictography, the gesture language of the various tribes was also studied, the latter frequently aiding very materially in interpreting obscure characters, and attempts at the graphic portrayal of gestures and subjective ideas.[1]

The collection of gesture signs obtained from Vladimir Naomoff, and subsequently verified, to a great extent, by a Mahlemut native from St. Michael's, is appended hereto,[2] in connection with the list of objects in the National Museum, to which special reference is made.

These gesture signs are of importance in the study and interpretation of many of the Eskimo records.

Many of these gesture signs are natural, and intelligible to most people who are known, on account of peculiar linguistic position, to have knowledge of this mode of communication because of their

[1] For names and number of tribes visited, see Salishan Bibliography. J. C. Pilling. Washington, D. C. [Bulletin of the Bureau of Ethnology] under caption *Hoffman, W. J.*

[2] Collected by the writer in 1882, and deposited in the manuscript collections of the Bureau of Ethnology.

inability to comprehend the oral speech of surrounding tribes. Other gestures were peculiar to these natives because of the unique resources of their peculiar environment; and others again were highly interesting because of the concept being hidden in some old custom, shamanistic ceremonial, or individual practice of the person having recourse to a particular idea.

In a number of the records will be observed outlines of the human figure, with hands and arms, and sometimes the lower extremities, in curious and apparently unnatural positions. Such portrayals are attempts at illustrating gesture signs pictorially, and subjective ideas are thus indicated—a step very much in advance of the ordinary system of pictography as known to and practiced by most of the Indian tribes.

It is obvious, therefore, that in order to fully comprehend the intention of a pictographic record, it is necessary to know the artist's needs, his environment and resources, his beliefs and shamanistic observances, and as much of the gesture language as may be obtainable.

From a careful study of the pictographs of the several Indian tribes and the numerous petroglyphs and painted records scattered over various portions of the United States, it is safe to assert that a comparison of these with the various artistic materials of the Eskimo show the latter to be vastly superior to the preceding, especially in faithful reproduction of animal forms and delicacy of artistic execution.

The portrayal of the reindeer, in particular, serves as an illustration of the manner in which the Eskimo are close observers as to anatomical peculiarities, as well as in catching the expression indicated in various attitudes assumed by these animals in grazing, rising, running, and in the positions assumed to denote alarm, fear, etc.

In the portrayal of whales the Eskimo artist is also careful as to specific anatomical features. The peculiar elevation at the spout or blowhole of the "bowhead" is especially indicated, and is characteristic of the species, as that part of the mammal is used to raise and keep open the elastic "granular" salt ice for breathing holes or for spouting.

The smaller whale, designated also as the California gray, the "mussel digger," or "devilfish," is likewise specifically indicated by a more pointed head and sharp flukes, and I can only call attention to the sharp flukes and conspicuous fins of the "killer" to illustrate the result of observation given to it by the native artist in endeavoring to show graphically the part which, to him, is a specific identification of the animal.

In a few illustrations the walrus is very carefully engraved, and although the native result may appear uncouth and cumbersome, yet a comparison of the etchings with the illustration of that animal will at once serve to show strikingly careful imitation of the original subject. As to the portrayal of various other animal forms, they are, generally,

sufficiently true to nature to admit of ready identification. The imitation of the specific construction of the kaiak and the umiak is usually excellent, as also the various forms of dog sledges peculiar to certain localities in Alaska and faithfully represented in a number of etchings. For the purpose of further comparison between the Eskimo portrayal and the manufactured vehicle, several illustrations of the latter are reproduced in figures.

The Eskimo is not an expert in portraying the human form. It is certain that in various instances man is indicated by linear outlines or incisions very much in imitation of that of the Shoshonian tribes, the head being a mere circular spot, from which is suspended a line terminating below in two legs, and beneath the head being attached two lateral lines for arms. These extremities may be drawn in various attitudes, but apart from the attitude no further notice would be given to them. This forms a marked contrast as compared with the same idea as portrayed by various Algonkian tribes, notably so the Ojibwa, who devote much artistic attention to the head, dress, and ornaments of the character intended to represent a human being.

The peculiarity of Eskimo graphic art as compared with that of other peoples will be treated of farther on. The subject forms the basis of the present paper, and was made possible through the courtesy of Doctor G. Brown Goode, Director in charge of the United States National Museum, and my indebtedness to Professor O. T. Mason, Curator of Ethnology, is hereby gratefully acknowledged for his valuable suggestions and for placing at my disposal every facility for the careful examination of specimens in his custody, not all of which, however, were deemed of sufficient importance to illustrate, as such a procedure would have resulted in considerable duplication.

THE ESKIMO.

GEOGRAPHIC DISTRIBUTION.

The Eskimauan, or Innuit,[1] linguistic family occupies the greater portion of the coast of Arctic America, Greenland, the Aleutian Islands, and a small area of the Chukche Peninsula of Siberia. The extreme points are about 3,200 miles apart, though to follow the shores would necessitate a journey of 5,000 miles.

The interior portions of the continent are occupied by various Indian tribes, belonging to several conspicuous linguistic families, but the Eskimo, under various designations, have always apparently confined themselves to the seashore and the country adjacent thereto, not exceeding 50 miles inland, except in following various river courses in pursuit of game.

The easternmost branch of the Eskimo is that represented by natives

[1] Although the term Innuit is frequently employed, and may be linguistically proper, the writer employs the more popular term, viz: Eskimo.

nlong the north and east coast of Greenland, two families being met with by Captain Clavering in 1823, north of 74° 30′. Captain Holm recently found them on the southeast coast between 65° and 66° north latitude. These are said to profess ignorance of any natives north of them. On the west coast of Greenland they extend to about 74° north latitude. General Greely found indications of permanent settlements in Grinnell Land, near Fort Conger, at 81° 44′ north latitude.

Mr. Henry G. Bryant, in his "Notes on the most northern Eskimos,"[1] says:

> As is well known, the most northern Eskimos were first visited by Sir John Ross in 1818, and he first applied to them the term "Arctic Highlanders." As the appropriateness of this appellation seems quite questionable as applied to a tribe living wholly on the seacoast, I have preferred to use the term "most northern Eskimos," as being more descriptive and appropriate in its character. This tribe inhabits that rugged strip of indented coast in northwest Greenland which extends for about 550 miles from Cape York to a point somewhat south of the southern edge of the Humboldt glacier. It is a fact well known that the impassible ice walls which occur at both of these points have thus far served as effectual barriers to any extended migrations of this tribe. It is owing to this enforced isolation that at this late day we find here the most typical of the Eskimo family groups—a primitive tribe who are but just emerging from the Stone Age, whose members still dress in skins, eat raw flesh, and pursue their game with the same sort of rude weapons that their forefathers used in prehistoric times.

Doctor Kane, in 1855, noted this tribe as numbering 140, while Mr. Bryant remarks that Lieutenant Peary places the census at fully 250.

On the Labrador Coast the Eskimo extend southward to Hamilton Inlet at about 55° 30′, north latitude, though it is not so long since they were located at the Straits of Belle Isle.

On the east coast of Hudson Bay these natives reach southward to James Bay; while northward it is on Ellsmere Land and around Jones Sound that Doctors Boas and Bessels place the northernmost groups of the middle Eskimo. Several of the northern Arctic islands present evidence of former occupancy, but for some unknown cause the natives emigrated thence. The western part of the central region of the continent seems unoccupied, and from the Mackenzie westward the coast seems to have no permanent villages between Herschel Island and Point Barrow. This strip of country is no doubt hunted over in summer, as the natives of the latter locality do not penetrate far into the interior for game.

The Alaskan Coast from Point Barrow to the Copper River on the south is practically occupied by Eskimo of various villages or bands, as will hereafter be more fully described.

The Aleutian Islands are occupied to a certain extent by a branch of the same linguistic family, though the dialects are unintelligible to the Eskimo proper. Their distribution has been very materially

[1] Reprinted from Report of the Sixth International Geographical Congress, held London, 1895, p. 3.

changed since the advent of the Russians and the establishment of the fur trade, and at present they are located principally on a few of the largest islands only.

On the Asiatic side this family is represented by the Yúit, who are distinct from the Chukche, or Túski of authors, who are of Asiatic origin, and of a distinct linguistic group. The Yuit are also a coast people, and, according to Mr. Dall, are comparatively recent arrivals from the American side. Between the Siberian and the Alaskan coasts are the Diomede Islands, a convenient stopping place for voyagers between the two continental points above mentioned. At these islands Simeon Deshneff, in 1648, found natives wearing labrets who were at war with the Túski. Similar reports were made by Shestakoff, in 1730. Peter Popoff, who visited the Asiatic mainland about 1711 for the purpose of collecting tribute from the Chukche, describes the habitations and remarks that "he found among the Túski ten of the islanders wearing labrets, who had been taken prisoners of war."[1]

Mr. Dall[2] observes that the Túski do not wear labrets, which distinguishing feature, compared with the Chukche, was noticed by Déshneff, as well as all subsequent voyagers. Both sexes tattoo, not only over the face but all over the body. The women in probably all instances bear tattooed vertical lines on the chin, a practice which is not followed by the men. An illustration of tattooing upon the chin of a Port Clarence woman is given elsewhere.

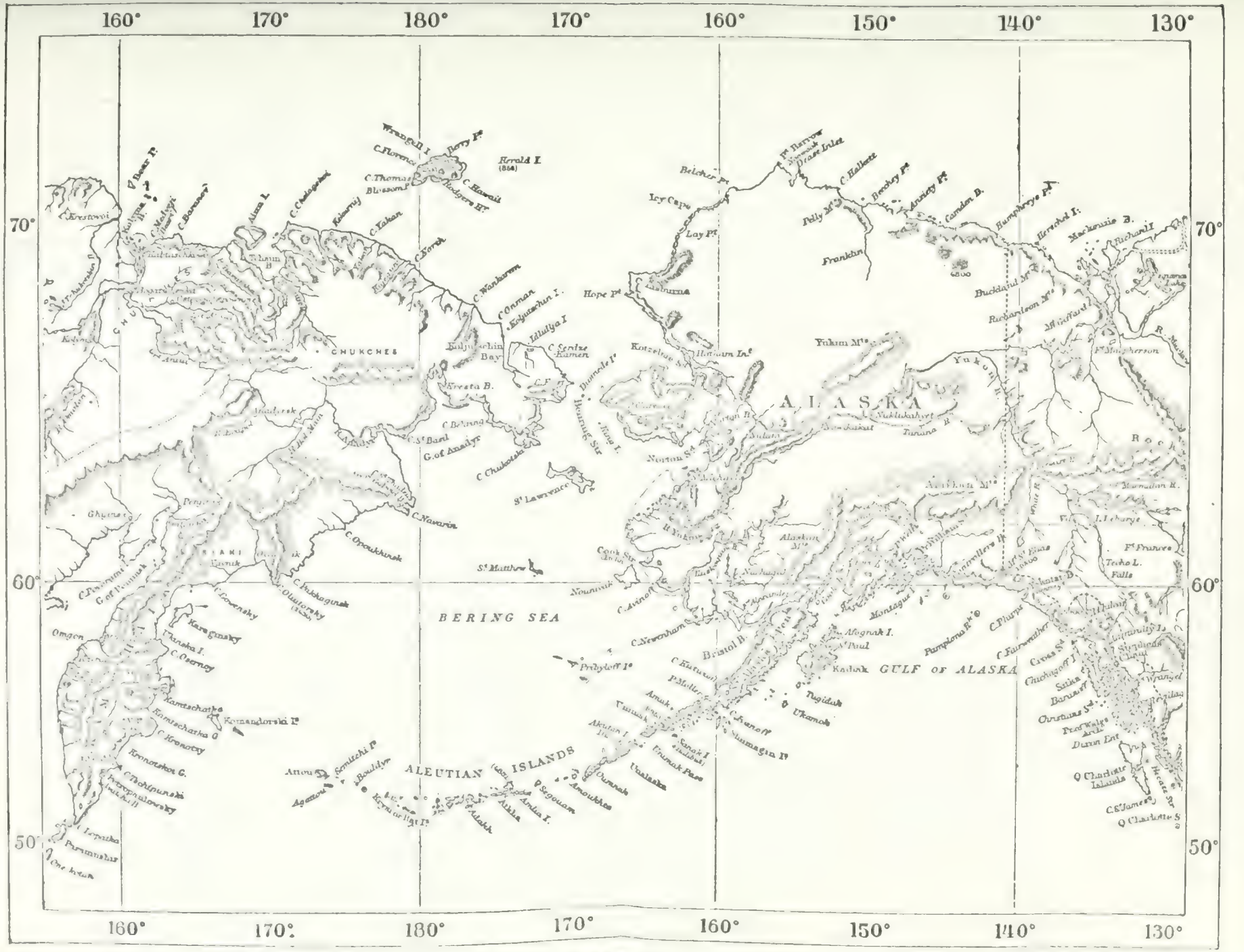
Concerning the representatives of the Eskimo upon the Asiatic side of Bering Strait, the following remarks are reproduced from the memoranda concerning "the Arctic Eskimos in Alaska and Siberia," by John W. Kelly,[3] interpreter, who says of the "Siberian Eskimos:"

> There are settlements of Eskimos at Cape Tchaplin (Indian Point), Plover Bay, and East Cape. How long they have been there and how much of the country they have occupied can only be conjectured. Those occupying St. Lawrence Island, Cape Tchaplin, and part of the shores of Plover Bay, on the mainland of Asia, opposite St. Lawrence Island, speak a dialect nearer like that of Point Barrow or the Mackenzie River than the dialects of the Diomedes or Kotzebue Sound. That the Eskimos of Asia have been there a great many years is a certainty. The Deermen people, whose principal support is domesticated reindeer, have gradually crowded out the Eskimo or Fishmen, and have almost absorbed them by assimilation. They wear no labrets, and in dress and tattooing are the same as the Deermen. That they have lived in underground houses is abundantly proved by the ruins at Cape Tchaplin of old huts which have been framed with the whole jaws of whales. Now they live in huts above ground, covered with walrus hides. They are built in the same manner as those of the Deermen, who use a covering of reindeer robes. From the Deermen they have also learned to cremate their dead, instead of scattering the bodies over the plain, according to the custom of the American Eskimos. Like the American Eskimos, they deposit the personal property of the deceased at his grave. If he was a great hunter, they also erect a monument of reindeer antlers over his

[1] Quoted from W. H. Dall, "Alaska and its Resources." Boston. 1870, p. 376.

[2] Idem, p. 380.

[3] Published in the Bureau of Education Circular of Information No. 2, 1890, p. 8, 9.



MAP OF ALASKA.

grave. At East Cape, Siberia, there is a trace of the Arctic Eskimos, but differing from their nearest neighbors, the Diomede people.

In the vicinity of East Cape there are a few ruins of underground houses, and a few Eskimo words are still used by the people. Twenty miles westward from Cape Tchaplin is Plover Bay, where both the Eskimo and Deermen language is spoken, but the Eskimo is on a rapid decline.

SUBTRIBES OR SETTLEMENTS.

The Eskimo of littoral Alaska are divided into a considerable number of geographic divisions, popularly designated as tribes, and are here briefly enumerated chiefly according to W. H. Dall's arrangement, his orthography being generally maintained.

The accompanying map of Alaskan and Asiatic coasts will serve to further aid in locating the points occupied by the various native settlements below enumerated. Plate 1.

The Aleutians, properly so called, are divided into two tribes, the Atkans and Unalashkans. The former belong to the western part of the archipelago, and the latter were originally confined to the eastern portion. The original name of these people signified, according to Humboldt, "People of the East," and they have been regarded as having originally come from the continent, a reference to which theory will be made further on.

The Ugalákmut [=Aígalúxamiut][1] is the southernmost tribe, beginning nearly at the mouth of the Copper River and extend westward to Icy Bay. Some of the eastern bands have become mixed by intermarriage with the Thlinkit. "The Chugáchmuts occupy the shores and islands of Chugách Gulf, and the southwest coasts of the peninsula of Kenái." They are few in number, compared with the large extent of country they occupy.

The Kaniagmuts occupy the island of Kadiak and the greater portion of the peninsula of Aliáska. This is probably the most popular of all the Eskimo tribes. They extend from Lliámna Lake to 159° west longitude.

The Oglemuts occupy the Aliáska peninsula along the northern coast, from 159° west longitude to the head of Bristol Bay, and along the north shore of that bay to Point Étolin.

The Kiatéqamiut inhabit the coast from near the mouth of Nushergak River westward to Cape Newenham. They are the Nushergágmuts of Dall, who remarks of them as particularly excelling in carving ivory, and that most of their weapons and tools are made of this material.

The Kuskwógmuts "inhabit both shores of Kuskoqúim Bay, and some little distance up that river."

The Agulmuts extend "from near Cape Avénoff nearly to Cape Románzoff. There are also a number of settlements of the same tribe on the island of Núnivak."

[1] All words, or remarks, within brackets are added by the present writer.

The Magemuts "inhabit the vicinity of Cape Romanzoff, and reach nearly to the mouth of the Yukon. They resemble their southern neighbors more than they do those to the north of them. The women wear labrets. The name Magemut signifies 'Mink people.'"

The Ekogmuts "inhabit the Yukon delta from Kipnuk to Pastólik, and ascend the river as far as Mauki, some distance above the mission. Those who inhabit the Kwikhpak slough call themselves Kwikhpagmut, a name sometimes applied to the whole tribe." A peculiarity "in many of them is the extreme hairiness of their persons. Many of them have very strong black beards and hairy bodies."

The Unalgmuts, or Unaleet, "occupy the coast from Pastólik to Shaktólik." They have also been designated as the Aziágmut.

The Máhlemuts "occupy the coast of Norton Sound and Bay north of Shaktolik and the neck of the Kavidk Peninsula to Selawik Lake. Their most eastern village is Attenmut, and their western boundary the river which flows northward into Spavárieff Bay, Kotzebue Sound."

The Kaviágmiuts occupy the Káviak Peninsula and Sledge or Áziak Island. "Many of them pass the winter in the southern part of Norton Sound, and there is a large Káviak village at Unalaklik. * * * Their principal villages are Nóokmut, at Port Clarence, and Knik-Tágmut, on Golofnína Bay."

The portrait of a Kaviágmiut man, aged 33 years, is given in plate 2. He is a very intelligent native, and is a clever artisan. Another type of the same tribe is shown in the person of Suku'ut, aged 25 years, from the same locality, plate 3. An interesting illustration of a girl aged 17 years is presented in plate 4. She has a remarkably clear skin, pink cheeks, and bears upon her chin the usual pattern of tattooed lines, extending downward from the mouth.

In plate 5 is reproduced the portrait of an inhabitant of the village of Nuwŭk, at Point Barrow. The features are very much less pleasing than those shown in the preceding figures. Plate 6 represents a young man from the village of Utkiavwiñ.[1]

The Oke-ógmuts are essentially the same as the preceding, but the name is applied "by the Innuit to the small and energetic tribe who inhabit the islands by Bering Strait. They carry on the trade between the two continents, and visit the island of St. Michael every year for the purpose. I have also heard the same name applied to the inhabitants of St. Lawrence Island."

The Eskimo of the Point Barrow region are located, according to Mr. Murdoch,[2] in the villages of Nuwŭk and Utkiavwiñ. Nuwŭk signifies "the Point," and is a slightly elevated knoll at the extremity of Point Barrow, in latitude 71° 23′ north, longitude 156° 17′ west. Utkiavwiñ signifies "the Cliffs," is 11 miles west from Nuwŭk, at Cape Smyth, and is also a high ridge. The nearest neighbors to the east are those

[1] These two portraits are reproduced from the Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, figs. 1 and 4.

[2] Idem, p. 26.



NOMIKSE'NER, A KAVIAGMIUT MAN.



SUK'UUK, A KAVIAGMIUT MAN.



NERLUNG'NER, A KAVIAGMIUT GIRL.



UNALINA, A MAN OF NUWUK.



PUKA, A YOUNG MAN OF UTKIAWIÑ.

at Herschel Island, or Demarcation Point, and on the west at a small village between Point Belcher and Wainright Inlet. The natives of these villages are so closely connected, says Mr. Murdoch, "that they are sometimes spoken of collectively as Sidáruñmium" (= Sidarunmiut). "At a distance up the river, which flows into Wainright Inlet, live the Kunmiun, 'the people who live on the river.' These appear to be closely related to the first village below Wainright Inlet, which is named Kilauwitawin."[1]

The people at Point Hope, according to Mr. Murdoch, are known as the Tikera'ñmiun, "inhabitants of the forefinger (Point Hope)."

The natives along the coast east of Point Barrow to and beyond the Mackenzie are often spoken of by the Hudson Bay traders as the Mackenzie River Eskimo. They appear to be identical with those described by Father Petitot as the Taρèoρment [=Taχeoχment] division of the Tchiglit, and are termed by Murdoch the Kupûnmiun, and inhabit the permanent villages at the "western mouth of the Mackenzie, at Shingle Point and Point Sabine, with an outlying village, supposed to be deserted, at Point Kay." Still another tribe is located at Anderson River and Cape Bathurst, not considered by Petitot as the above named, as he applies the name Kρagmalit. Sir John Richardson, the first to meet with them [1826], calls them "Kette-garrœ-oot."[2]

POPULATION.

With reference to the population of the Eskimo of the several divisions, only approximate figures can be given. The Greenland group, consisting of seventeen villages on the east coast, are stated by Holm, in 1884–85, to number about 550, while on the west coast the "mission Eskimo" numbered 10,122 in 1886, and the northern Greenland Eskimo, or Arctic Highlanders of Ross, number about 200.

Doctor Boas estimates the "Central or Baffin Land Eskimo" at about 1,100.

The natives along the coast in Labrador are stated by Rink, Packard, and others, to number about 2,000 souls.[3]

The Alaskan Eskimo, comprising those of the mainland, as well as the few (40?) upon Little Diomede Island, together with those on St. Lawrence Island and the Aleutian Islanders, are estimated by Dall and others at about 20,000.[1]

This, excepting the Siberian tribe, makes a total of about 34,000 Eskimo. What the former population, before the introduction of liquor and social vices, may have been it is impossible to conjecture. It is stated by one author (Dall) that the Aleutians formerly were estimated at 20,000, but recently numbered only 1,500, which figure has also been given by others, though according to a still later estimate these islanders were put down at 2,200.

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, pp. 43, 44.

[2] Franklin's Narrative of a Second Expedition to the Shores of the Polar Sea in the years 1825, 1826, and 1827. London, 1828, p. 203.

[3] Sixth Annual Report of the Bureau of Ethnology for 1884–85, 1888, p. 426.

EARLY EXPLORATIONS.

For reasons which will hereafter become evident, it is necessary to refer briefly to the several explorations made to eastern Siberia, and later to the American mainland. In the following historical references I use freely Mr. Dall's remarks, published in his work, "Alaska and its Resources," of which note has before been made.

In the year 1646, the Russians, under Isai Ignatief, pushed their explorations to the east of the Kolyma River, the mouth of which is at about latitude 69° 30′ north and longitude 161° 30′ east, and obtained by barter from some Chukche specimens of walrus ivory. In the following year, 1647, four small vessels sailed eastward of Kolyma, the party being under the command of a Cossack, named Simeon Deshneff. The object of this expedition was to reach the Anadyr River, of which vague reports had been received. Other explorers followed, but it was not until 1648 that the northeast coast of Asia was passed and Bering Sea entered.

Various explorers continued, from year to year, to visit different portions of the coast of Kamchatka, but it was not until 1711 that a Cossack, named Peter Iliínsen Popoff, arrived at East Cape with the intention of collecting tribute from the Chukche. The visit proved fruitless, but Popoff returned with an account of the Diomede Islanders and the Chukche account of a continent which lay to the east and beyond these islands.

On account of the interest manifested in these discoveries, scientific men succeeded in obtaining the attention of Peter the Great, and instructions for an expedition were delivered to Admiral Apráxin. A few days later the Emperor died, but the Empress, in order to fulfill the wishes of the deceased monarch, ordered the execution of the instructions, and Captain Vitus Bering was nominated to command the expedition. Although the original plan was formulated in 1725, it was not until 1727 that Bering and his companions left St. Petersburg. He sailed past what is now known as St. Lawrence Island, through Bering Strait, and, thus proving the separation of Asia and America, returned to the Kamchatka River on the 20th of September without having seen either the Diomede Islands or the American Coast. He returned to St. Petersburg in 1730, but again went on a voyage of discovery and landed on Bering Island, where he died December 8, 1741.

In the meantime various other navigators and explorers had been making considerable progress in exploring the shores of Kamchatka and approaching the American Coast. In 1731 Pávlutski reached Cape Serdze Káman, in the hope of securing from the Chukche some tribute. This resulted in failure, and in the interim Gwósdeff sailed to the Chukche Coast; a gale drove him eastward, "where they found an island, and beyond it the shores of the continent of America. They met a native in a Kyak, and sailed two days along the coast without being

able to land. A storm came up and they returned to Kamchatka. This completed the exploration of Bering Strait, which had been commenced by Déshneff and his companions."[1]

It was not until July, 1741, that Chírikoff arrived off the American Coast, near Cross Sound. Boats were sent there upon two occasions, and several days later two canoes, filled with natives, came near the ship, but immediately fled to the shore. Various islands were seen by Chirikoff on his return to Kamchatka. During this visit 21 men were lost, de la Croyère, the naturalist, dying of scurvy.

Bering saw land on July 2, and anchored near an island two days later.

Emilian Bássoff discovered the island of Attu, the westernmost of the Aleutian group, in 1745. Glotloff discovered the island of Kadiak, or Kaniag as it was designated by some of the natives, in July, 1763. These islanders were less disposed to friendliness and gave frequent evidences of hostility.

About 1764 Lieutenant Lynd was put in command of an expedition which was organized under the direction of the Empress Catherine. He did not leave Kamchatka until 1767, sailing from Ochótsk toward Bering Strait, passing St. Matthew and St. Lawrence islands, saw Diomede Island, and finally landed on the American Coast south of Cape Prince of Wales. Further explorations of the peninsula of Alaska was made by Krenítzin in 1768.

Cook entered Bering Strait in August, 1778, and, on his return from a voyage northward, explored Norton Sound and Bay. On October 3 he again touched at Unalashka, sailed for the Sandwich Islands, where he was killed by the natives in 1779.

As early as 1788, Mares and Douglas, supercargoes, sailed from Macas to Nootka and to Cooks Inlet. The Spanish claimed the right to sail the Pacific on the northwest coast of America.

In 1791 Billings and Saryčheff visited Unalashka, St. Paul, St. Lawrence, Aziak, and the Diomedes; also touched on the American Coast near Cape Prince of Wales, and then anchored in St. Lawrence Bay on the Asiatic side.

In 1793 the Empress of Russia issued an ukase authorizing the introduction of missionaries into the American colonies, and to the works of these patient laborers we are indebted for many interesting and valuable facts respecting the history of the customs and manners of that time. It is singular, however, that although their accounts often appear unusually concise and comprehensive, the practice of engraving upon ivory and bone, seems to have been entirely overlooked, or more likely may not have been in vogue among them. This subject, however, will be further treated elsewhere.

The natives of Point Barrow are said never to have seen a white man until the year 1826, when the barge of the *Blossom*, under Captain

[1] Dall. "Alaska and its inhabitants," p. 299.

Beechey, visited their coast. They had, however, received from southern neighbors articles of European manufacture introduced by the Russians, such as tobacco, copper, and other articles, some of which were obtained, according to Murdoch's statement,[1] by way of the Diomede Islands and Siberia.

Visits by other navigators were made at long intervals, and it was not till 1854 that the first whaling vessel came to the Point.

Although the Point Barrow natives are provided with firearms, they would be unable, by means of these alone, to obtain any seals, "as their own appliances for sealing are much better than any civilized contrivances."[1] Mr. Murdoch, whom I have here quoted, states furthermore that "all are now rich in iron, civilized tools, canvas and wreck wood, and in this respect their condition is improved." Nevertheless, in so far as the graphic art is concerned, they appear to be considerably behind the natives of Bristol Bay and Norton Sound.

The eminent Danish antiquarian, Doctor Henry Rink,[2] in his remarks on the probable origin of the Eskimo, speaks of their former location in Greenland as follows:

> According to the sagas of the Icelanders, they were already met with on the east coast of Greenland about the year 1000, and almost at the same time on the east coast of the American continent. Between the years 1000 and 1300, they do not seem to have occupied the land south of 65° north latitude, on the west coast of Greenland, where the Scandinavian colonies were then situated. But the colonists seem to have been aware of their existence in higher latitudes and to have lived in fear of an attack by them, since, in the year 1266, an expedition was sent out for the purpose of exploring the abodes of the Skraelings, as they were called by the colonists. In 1379 the northernmost settlement was attacked by them, eighteen men being killed and two boys carried off as prisoners. About the year 1450 the last accounts were received from the colonies, and the way to Greenland was entirely forgotten in the northern country.

Doctor Rink says that the Eskimos of southern Greenland present features indicating "mixed descent from Scandinavians and Eskimo," the former, however, not having left any sign of influence of their culture or nationality upon the present natives.

In 1585 Greenland was discovered anew, by John Davis, who found it inhabited exclusively by Eskimo.

In the work before cited,[3] Doctor Henry Rink remarks:

> Recent investigations have revealed differences between the Eskimo tribes which indicate that, after having taken their first step to being an exclusively maritime people, they have still during their migrations been subjected to further development in the same direction, aiming at adapting them especially for the Arctic coasts as their proper home. The further we go back toward their supposed original country, the more of what may be considered their original habits we find still preserved. In the general history of culture these variations must certainly appear trifling, but still I believe that a closer examination of them will throw light on the question how the most desolate and deterring regions of the globe could become

[1] Ninth Annual Report of the Bureau of Ethnology for 1887-88, 1892, p. 53

[2] The Eskimo Tribes. Copenhagen and London. 1887.

[3] Idem, pp. 3-5.

peopled. The solution of this problem is facilitated by the fact that the whole Eskimo nation has been less exposed to that contact with other peoples which elsewhere renders such investigations more complicated. These variations are among the Eskimo more exclusively due to natural influences to which the wanderers were exposed during their struggle for existence, and which partly gave rise to new inventions, partly led only to the abolishment of former habits. In some instances also these external influences evidently occasioned decay where the severity of the climate in connection with the isolation and the fewness of inhabitants almost exceeded the bounds of human endurance.

Doctor Rink endeavors to show from this point of view "the peculiarities of the tribes in the different domains of culture agree with the supposition that the original Eskimo inhabited the interior of Alaska; that apart from the true Eskimo a side branch of them in the farthest remote period peopled the Aleutian Islands, whereas people of the principal race later settled at the river mouths, spreading northward along Bering Strait and, hiving off some colonies to the opposite shore, proceeded around Point Barrow to the east, the Mackenzie River, over the central regions or Arctic Archipelago, and finally to Labrador and Greenland. This dispersion may have taken thousands of years; they can only have proceeded in small bands, very much as still they are used to move about during certain seasons. Their only way of procuring subsistence in the vast deserts they passed over, excluded the possibility of national migrations on a larger scale. While in this way they continued to discover new countries, some families were induced to go farther; others remained and finally gave rise to the present scattered settlements. But, in proposing this hypothesis, I consider it a matter of course that Alaska as the original home of the Eskimo is not to be taken in the strictest sense, absolutely excluding adjacent parts of the continent toward the east. But as to the other theory, that the Eskimo should have emigrated from Asia by way of Bering Strait and found the Indian territory already occupied by the same natives as now, this objection must be separately taken into consideration in connection with the facts bearing in favor of the former."

SHELL HEAPS IN THE ALEUTIAN ISLANDS.

The only important researches regarding prehistoric remains in Alaska and the Aleutian Islands are those of Mr. Dall.[1] He remarks that the "shell heaps are found on nearly all the islands of the Aleutian group. They are most abundant and extensive in the islands east of Unalashka, and on the few islands from Amchitka eastward, which are less high and rugged than the others, or on those where the greater amount of level land is to be found. The two necessaries for a settlement appear to have been a stream of water or a spring, and a place where canoes could land with safety in rough

[1] On succession in the shell heaps of the Aleutian Islands. Contributions to North American Ethnology, I, 1877, p. 43.

weather. Where these are both wanting, shell heaps are never found, and rarely when either is absent."

From careful examinations made by Mr. Dall, he deems it probable that the islands "were populated at a very distant period; that the population entered the chain from the eastward; that they were, when first settled on the islands, in a very different condition from that in which they were found by the first civilized travelers," etc. It is furthermore suggested by this writer that there was a later wave of population; that the former people "were more similar to the lowest grades of Innuit (so-called Eskimo) than to the Aleuts of the historic period," and that the stratification of the shell heaps shows a tolerably uniform division into three stages, characterized by the food which formed their staple of subsistence and by the weapons for obtaining as well as the utensils for preparing the food.

The stages are—

I. The littoral period, represented by the Echinus layer.

II. The fishing period, represented by the Fishbone layer.

III. The hunting period, represented by the Mammalian layer.

In concluding his impressions respecting the shell heaps, the author concludes by saying "that those strata correspond approximately to actual stages in the development of the population which formed them, so that their contents may approximately, within limits, be taken as indicative of the condition of that population at the times when the respective strata were being deposited."

PREHISTORIC ART.

With reference to specimens of art or ornament, Mr. Dall[1] remarks:

> The expression of æsthetic feeling, as indicated by attempts at ornamentation of utensils or weapons or by the fabrication of articles which serve only for purposes of adornment, is remarkably absent in the contents of the shell heaps. As a whole, this feeling became developed only at the period directly anterior to the historic period. It was doubtless exhibited in numerous ways, of which no preservation was possible, so that the early record, even for a considerable period, would be very incomplete. We know that great taste and delicate handiwork were expended on articles of clothing and manufactures of grass fiber, which would be entirely destroyed in the shell heaps, and of which only fragmentary remains have been preserved on the mummies found in the latest prehistoric burial caves and rock shelters. * * *
>
> There are some articles used on the kyak which are usually made of bone, and often preserved in the upper mammalian stratum, and upon which some attempts at ornamentation were bestowed. These are little pieces of bone or ivory, in general shape resembling a kneeling figure, with one or two holes, through which cords are passed. * * * The latter were in some cases carved to represent figures of animals. Another species of ornamentation is elsewhere alluded to in the flat thin strips of bone which were fastened to the wooden visor worn in hunting. These were frequently ornamented with typically Innuit patterns of parallel lines, dots, concentric circles, with zigzag markings between them and radiating lines. All

[1] On succession in the shell heaps of the Aleutian Islands, in Contributions to North American Ethnology, I, 1877, p. 43.

these were in black, on the white basis of the bone or ivory. * * * The markings can seldom be accurately described as marks of ownership. I have never seen any definite mark or ornament of this nature among the Aleuts or Western Innuits. They readily recognize their own utensils or weapons without any such aid, and I believe the theory of "marks of ownership," "batons of command," and such like, has been stretched far beyond the point of endurance or accuracy, at least among writers on the Innuit. Drawings, engravings on bone or wood, and pictures of any kind, so far as I have observed, are all subsequent to the period covered by the shell heap deposit. They are invariably quite modern, though the taste for them is now widely spread among the Innuit, especially those of the regions where ivory is readily procured. The coloration of wooden articles with native pigments is of ancient origin, but all the more elaborate instances that have come to my knowledge have marks of comparatively recent origin.

ESKIMO AND CAVE MEN OF FRANCE.

In his "Alaska and its Resources," Mr. Dall presents several illustrations of drawings on bone, very ordinary specimens and limited to poorly executed figures of men hunting. These are given merely to indicate to the reader the general appearance of the etching of the Eskimo. It is related in this connection, however, that these drawings are analogous to those discovered in France in the caves of Dordogne. The numerous specimens of prehistoric art, both incised and carved, which have been given by Messrs. Lartet and Christy in their work entitled Reliquiæ Aquitanicæ,[1] are familiar to most archæologists, so that no reproduction of plates or illustrations is deemed necessary in the present instance.

Mr. W. Boyd Dawkins,[2] an acknowledged authority on the antiquity of man in Europe, remarks at length upon the possible and in fact probable identification between the cave men and the Eskimo. In his conclusions upon comparisons between the respective arts, forms of weapons, apparently similar modes of living, etc., he says:

On passing in review the manners and customs of all the savage tribes known to modern ethnology, there is only one people with whom the cave men are intimately connected in their manners and customs, in their art, and in their implements and weapons. The Eskimo range at the present time from Greenland on the east along the shores of the Arctic Sea as far to the west as the Straits of Bering, inhabiting a narrow littoral strip of country, and living by hunting, fishing, and fowling. The most astonishing bond of union between the cave men and the Eskimo is the art of representing animals. Just as the former engraved bisons, horses, mammoths, and other creatures familiar to them, so do the latter represent the animals upon which they depend for food. On the implements of the one you see the hunting of the urus and the horse depicted in the same way as the killing of the reindeer and walrus on the implements of the other. * * * All these points of connection between the cave men and the Eskimo can, in my opinion, be explained only on the hypothesis that they belong to the same race. To the objection that savage tribes living under the same conditions might independently invent the same implements, and that therefore the correspondence in the question does not necessarily imply a unity of race, the answer may be made that there are no savage tribes known which use the same set of implements without being connected by blood. The ruder and more

[1] London, 1875, pp. 204. Pl. 87. Three maps and 132 woodcuts. Quarto.
[2] "Early Man in Britain," 1880, p. 233.

common instruments, such as flakes, and in a lesser degree scrapers, are of little value in classification; but where a whole set agrees, intended for various use, and some of them rising above the most common wants of savage life, the argument as to race is of considerable weight. It is still further strengthened by the identity of art. The articles found in the caves of Britain, Belgium, France, or Switzerland differ scarcely more from those used in west Georgia than the latter from those of Greenland or Melville Peninsula.

From these considerations it may be gathered that the Eskimos are probably the representatives of the cave men, and protected within the Arctic Circle from those causes by which they have been driven from Europe and Asia. They stand at the present day wholly apart from all other living races, and are cut off from all both by the philologer and the craniologist. Unaccustomed to war themselves, they were probably driven from Europe and Asia by other tribes in the same manner as within the last century they have been driven farther north by the attacks of the Red Indian.

The theory that the peoples of the circumpolar regions might be the descendants of the ancient cave dwellers of France has been entertained not only by Mr. Dawkins. Among other arguments employed are (1) the apparent similarity of environment, and that as the southernmost margins of the receding ice, in glacial times, slowly moved northward, the ancient cave people continued their migration in that direction until their present location was reached; (2) the general resemblance in the carved weapons and utensils of reindeer horn, and also some of the portrayals of animal forms which occur thereon.

From evidence based upon investigations by Doctor Rink, and the archæologic indications noted by Mr. Dall and others, the Eskimo are believed to have become a littoral people in America by expulsion from some interior regions of North America, such expulsion having been brought about through the northward expansion of the Athabascan tribes toward the northwest and the Algonkian tribes toward the northeast. Even within historic times the Eskimo occupied a much more extensive coast line southward on the Atlantic than at present, and it is impossible to conjecture what may not have been the southern limits, in prehistoric times, with reference to the first theory above named.

It is believed by some geologists that as the glaciers of western Europe gradually receded, the direction of migration of the prehistoric people was toward the British Isles, the Scandinavian Peninsula, and Lapland. The theory of their passage across to Greenland does not appear to be supported by any prehistoric remains, such as one would hope to discover after the recovery of the great amount of excellent material indicating a peculiar advancement in the arts of fashioning weapons and utensils of ivory and horn. Neither does there survive anything in Greenland but the simplest type of artistic decoration on ivory or bone, such as lines, dots, etc., which is characteristic of the Eskimo everywhere, excepting in Alaska, where the greater development was due to other causes, which will be mentioned farther on.

Neither is there apparent evidence that the Eskimo came across Bering Strait, as the survivors of the ancient cave men of Europe.

EXPLANATION OF PLATE 7.



Fig. 1. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 44383, U. S. N. M. From Cape Nome, Alaska. Collected by E. W. Nelson.)

Fig. 2. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 45109, U. S. N. M. Sledge or Aziak Island, Alaska. Collected by E. W. Nelson

Fig. 3. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 44745, U. S. N. M. Sledge Island, Alaska. Collected by E. W. Nelson.)



ARROW STRAIGHTENERS

EXPLANATION OF PLATE 8.

Fig. 1. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 63723, U. S. N. M. Diomede Islands, Alaska. Collected by E. W. Nelson.)

Fig. 2. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 43958, U. S. N. M. Nubuiakchugaluk, Alaska. Collected by E. W. Nelson.)

Fig. 3. ARROW AND SPEAR STRAIGHTENER.
(Cat. No. 44274, U. S. N. M. Cape Darby, Alaska. Collected by E. W. Nelson.)



Fig. 1. ARROW AND S
(Cat. No. 6372
Fig. 2. ARROW AND S
(Cat. No. 4395
Fig. 3. ARROW AND S
(Cat. No. 4427

ARROW STRAIGHTENERS.

With regard to the second theory, it would be strange indeed if there were not some general similarities between the weapons and utensils of two distinct uncivilized peoples when both used the same materials—reindeer horn—for such articles; and, furthermore, the attempted portrayal of animals of like genera would naturally produce results of very general likeness.

Finally, it has been suggested, and the burden of proof appears to indicate, that the development of pictographic art among the Alaskan Eskimo was attributable to their contact with the Russians; and that, although these natives preserved a limited degree of culture as to decorating by simple lines and dots their weapons and a few other articles of daily use, yet the objective representation of any animate or other forms is believed to have been adopted since the earliest visits of civilized man to the Alaskan Coast.

Several Alaskan utensils, however, used as arrow and spear straighteners are here illustrated in plate 7, figs. 1, 2, and 3, and plate 8, figs. 2 and 3, and are apparently similar to some like remains from the caves of France figured by Messrs. Lartet and Christy.

Upon closer examination it will be observed that besides the similarity of form, due chiefly to the reason that both types are of similar materials, the representation of animal forms by engraving, or incision, appears to belong to a different school of artistic work, if such a term may here be employed; a "sketchy" outline of an animal frequently consisting of but a few suggestive incisions here and there, as in very modern nineteenth century art work, producing an effect in several instances as the reindeer figured by Lartet and Christy in their work before cited, which artistic products appear "too artistic" for the culture status of cave men such as are portrayed in the deductions of the gentlemen above quoted by W. Boyd Dawkins and others who have followed up the same theme. The work of the cave men is apparently vastly superior in one respect to that of the Eskimo, and again from another aspect inferior to it—inferior in various ways, as will be learned by a perusal of the results attained by the Eskimo in the representation of both objective and subjective ideas, as well as an advancement toward conventionalization beyond that practiced by peoples who are apparently further advanced in other respects.

ENVIRONMENT.

So many narratives relating to the life and social conditions of the Eskimo, as well as to the topographic peculiarities of the countries occupied by the various subdivisions of this people, have been published at various times and by various authorities, that anything further in this connection would be superfluous, especially in a paper devoted more particularly to the graphic arts.

The habitations and clothing, such as are required in an unusually inhospitable climate, are both illustrated in the native pictography.

The forms of habitations are more particularly referred to elsewhere, and various native representations are reproduced for the sake of comparison both as to artistic merit as well as indicating personal or tribal variations dependent on climatic requirements.

The styles of clothing are not often referred to in Eskimo etchings, tattooing and labrets being sometimes indicated in carvings, as well as in incised characters. Some interesting carvings, with delicate artistic touches to accentuate the effects of tattooing, are given elsewhere.

ORNAMENTS AND LABRETS.

In some of the etchings are portrayed the outlines of human figures—in various attitudes, though especially as if in the act of dancing—to the rear portion of the body of which are attached little tail-like appendages resembling tails of animals.

This may be explained by quoting Captain Beechey,[1] as in his reference to the natives found northward of Cape Prince of Wales, within 4½ miles of Schismareff Inlet, he states that, in addition to certain described articles of clothing, "they have breeches and boots, the former made of deer's hide, the latter of seal's skin, both of which have drawing strings at the upper part made of seahorse hide. To the end of that which goes round the waist they attach a tuft of hair, the wing of a bird, or sometimes a fox's tail, which, dangling behind as they walk, gives them a ridiculous appearance, and may probably have occasioned the report of the Tschutschi, recorded in Muller, that the people of this country have 'tails like dogs.'"

Among the trimmings and ornaments attached to the clothing the Point Barrow Eskimo[2] also attach at the back the tail of an animal, usually a wolverine's. "Very seldom a wolf's tail is worn, but nearly all, even the boys, have wolverine tails, which are always saved for this purpose and used for no other. The habit among the Eskimo of western America of wearing a tail at the girdle has been noticed by many travelers, and prevails at least as far as the Anderson River," where it was noticed by Father Petitot, who, in describing the dress of the "chief," remarks "par derrière il portait aux reins une queue épaisse et ondoyante de renard noir."[3]

Captain Beechey[4] first observed lip ornaments at Schismaeff Inlet, a short distance north of Cape Prince of Wales, and thence northward to Point Barrow, seemingly a common practice along this coast. "These ornaments consist of pieces of ivory, stone, or glass, formed with a double head, like a sleeve button, one part of which is thrust through a hole bored in the under lip. Two of these holes are cut in a slanting direction about half an inch below the corners of the mouth. The

[1] Narrative of a Voyage to the Pacific and Bering's Strait, London, I, 1831, p. 248.
[2] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, p. 138.
[3] Monographie, p. xiv.
[4] Idem, p. 249.

incision is made when about the age of puberty, and is at first the size of a quill. As they grow older, the natives enlarge the orifice, and increase the size of the ornament accordingly, that it may hold its place. In adults this orifice is about half an inch in diameter, and will, if required, distend to three-quarters of an inch." The same practice in every respect is also observed at Chamisso Island,[1] a short distance from the above locality, and further reference concerning the natives is quoted from the same authority as follows: "They readily disengaged these lip ornaments from their lips, sold them, without minding the least inconvenience of the saliva that flowed through the badly cicatriced orifice over the chin; but rather laughed when some of us betrayed disgust at the spectacle, thrusting their tongues through the hole and winking their eyes."

ART FACILITY.

Mr. Alfred C. Haddon, in his admirable work on "Evolution in Art,"[2] remarks of the early methods of conveying information between one man and another, where oral or gesture language are impossible, that pictorial delineation must be resorted to; and further, that "probably one of the earliest of this needs was that of indicating ownership, and it may be that many devices in primitive implements and utensils have this as one reason for their existence, although the nature of the ornamentation may be owing to quite a different reason."

It is not of rare occurrence to find upon the arrows and other possessions of our native Indian tribes various marks by means of which individual property may be identified; and among some of the pueblo Indians decorated pottery bears "maker's marks" in such manner that, although the tribe at large may not recognize the maker of any particular decorated vessel, yet such a specimen will at once be identified as originating in, or with, a certain family, and when application is made at the designated abode, the individual will there be pointed out, or named if absent.

It seems possible that the various markings upon the weapons from the Alaskan shell heaps may have served as "property marks," and it would appear, also, to have been found expedient for the native seagoing hunters to devise and adopt some sort of a system by means of which they might be enabled to identify and recover any stray or floating weapon, or the animal in which such weapon might be found, or possibly both.

Mr. Haddon remarks that "the beautifying of any object is due to impulses which are common to all men, and have existed as far back as the period when men inhabited caves and hunted the reindeer and mammoth in western Europe."[3] Apparently the oldest markings thus

[1] Father Petitot, Monographie, p. 250.
[2] "Evolution in Art." London, 1895, p. 203.
[3] Idem, pp. 3, 4.

used consisted of simple lines and punctures or perforations, such as are found at present among the Greenland and Labrador Eskimo, though among the latter small carvings are also beginning to be more abundant.

In his reference to the Kaniags, Mr. Ivan Petroff[1] says they use whale spears about 6 feet in length, armed with slate points. "Upon the point of his spear each hunter carves his mark to enable him to claim his quarry."

Mr. L. M. Turner informs me that Eskimo property marks are unknown to him, although each hunter, or maker of weapons, will recognize his own workmanship, as well as that of others, by different peculiarities of individual skill. Among the sea-otter hunters of the Aleuts, they do have marks by which the detachable point of the otter spear may be known. "This point is often copper, obtained from copper bolts from a Russian vessel long ago stranded on their shore; and as the spear is made with exquisite skill, the point is also delicate and of particular form, so that a difficulty would arise as to whose spear point strikes nearest the nose of the creature. In its struggles the point is torn loose from the strong, yet slender, sinew line holding it to the spear. Another thrower may succeed in striking it and capture the otter, but he whose point is nearest the nose may claim the skin. A fair degree of liberality is usually manifested in such instances."[2]

The residence in Point Barrow of Mr. Murdoch—extending over a period of perhaps three years—afforded him ample opportunity to study the art of the Eskimo of that northernmost extremity of Alaska. In his report before mentioned he remarks:

> The artistic sense appears to be much more highly developed among the western Eskimo than among those of the east. Among the latter, decoration appears to be applied almost solely to the clothing, while tools and utensils are usually left plain, and if ornamented are only adorned with carving or incised lines. West of the Mackenzie River, and especially south of Bering Strait, Eskimo decorative art reaches its highest development, as shown by the collections in the National Museum. Not only is everything finished with the utmost care, but all wooden objects are gaily painted with various pigments, and all articles of bone and ivory are covered with ornamental carvings and incised lines forming conventional patterns.
>
> There are in the collections also many objects that appear to have been made simply for the pleasure of exercising the ingenuity in representing natural or fanciful objects, and are thus purely works of art. * * * As would naturally be expected, art at Point Barrow occupies a somewhat intermediate position between the highly developed art of the southwest and the simpler art of the east. * * * It will be noticed that whenever the bone or ivory parts of weapons are decorated, the ornamentation is usually in the form of incised lines colored with red ocher or soot. These lines rarely represent any natural objects, but generally form rather elegant conventional patterns, most commonly double or single borders, often joined by oblique cross lines or fringed with short pointed parallel lines. * * *
>
> The only decorative work in metal is to be seen in the pipes and their accompanying picks and fire steel. * * *

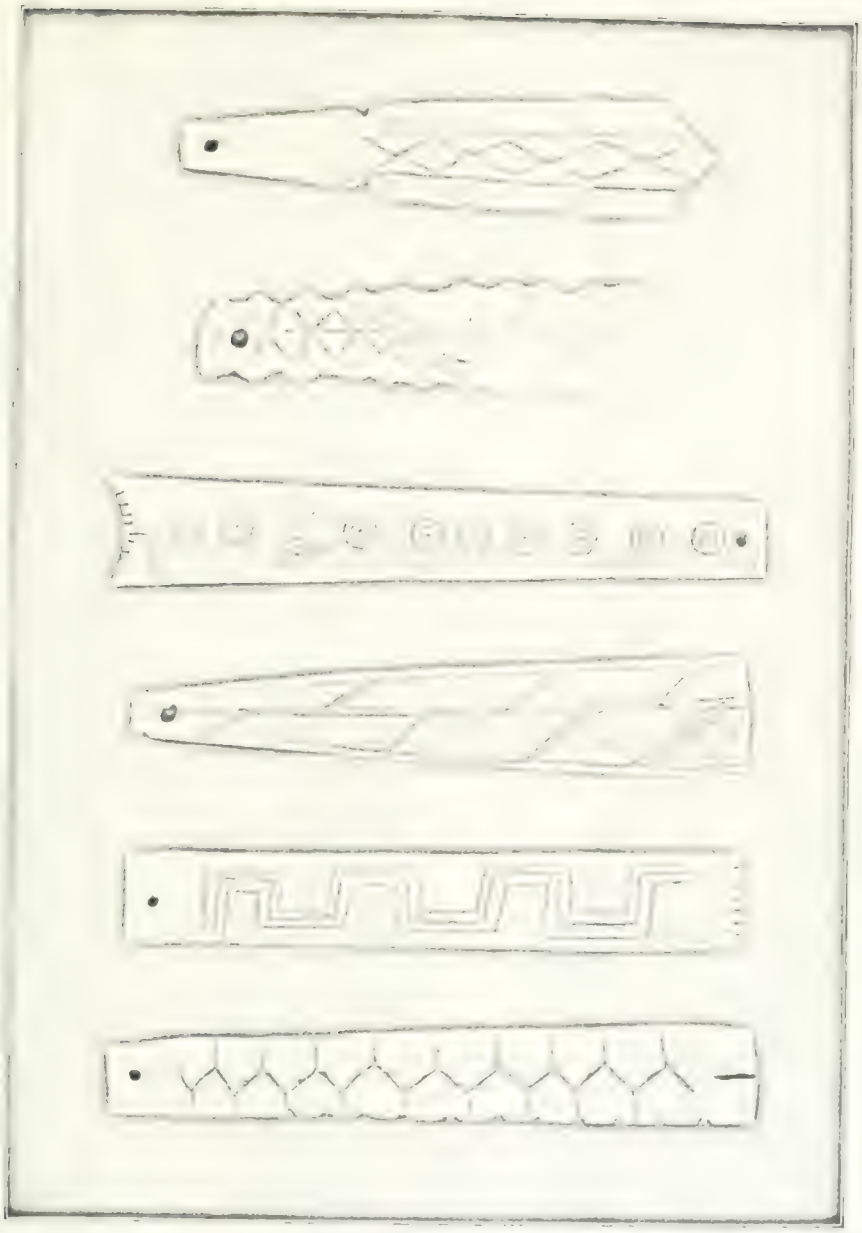
[1] Report on the population, industries, and resources of Alaska, Tenth Census, 1880, VIII, p. 142.

[2] Personal letter of date of May, 1896.

EXPLANATION OF PLATE 9.

PENDANTS OF BONE USED BY SHAMANS FOR ORNAMENTING NECKLACE.

(Cat. No. 168371, U. S. N. M. Thlingit Indians. Collected by Lieut. G. F. Emmons, U. S. N.)



THLINKIT NECK ORNAMENTS.

Mr. Dall remarks that the forms in general of the Eskimo are very much alike throughout the entire area occupied by this people; but he continues in another place, "Similar drawings are common everywhere among the Innuit, while I have never seen among the Tenneh tribes of the northwest any similar specimens of art."[1]

Since the time of Mr. Dall's researches in Alaska, however, various specimens of Thlinkit art designs have been received by the National Museum. Several of these, consisting of neck ornaments, are reproduced in plate 9, figs. 1 to 6, and bear purely Eskimo forms of ornamentation obtained through the medium of intertribal traffic, to which other reference is made in connection with trade routes or culture routes.

The ornamentation of utensils, articles of personal adornment, and of weapons is limited among the Eskimo eastward of Alaska to lines and dots in various combinations. Carvings occur also, small figures, both flat and in imitation of the animals with which the artist is familiar. The engraving upon ivory and bone for the purpose of recording hunting, fishing, and other exploits and pursuits, appears to be entirely absent in the east, being confined to the natives of Alaska, the Siberian Eskimo—the Yúit—and recently copied by other neighboring peoples.

In the vicinity of Chamisso Island, a short distance above Cape Prince of Wales, Captain Beechey[2] found various kinds of utensils, weapons, and other manufactures of the natives, upon some of which were engraved various objects, to which he refers as follows:

> On the outside of this and other instruments there were etched a variety of figures of men, beasts, birds, etc., with a truth and character which showed the art to be common among them. The reindeer were generally in herds. In one picture they were pursued by a man in a stooping posture in snowshoes; in another he had approached nearer to his game, and was in the act of drawing his bow. A third represented the manner of taking seals with an inflated skin of the same animal as a decoy; it was placed upon the ice, and not far from it was a man lying upon his belly with a harpoon ready to strike the animal when it should make its appearance. Another was dragging a seal home upon a small sledge; and several baidars were employed harpooning whales which had been previously shot with arrows; and thus, by comparing one with another, a little history was obtained which gave us a better insight into their habits than could be elicited from any signs or imitations.

Mr. John Murdoch,[3] in quoting Mr. L. M. Turner that the natives of Norton Sound keep a regular record of hunting and other events engraved upon drill bows, remarks that "we did not learn definitely that such was the rule at Point Barrow, but we have one bag handle marked with whales, which we were told indicated the number killed by the owner." Several specimens are then referred to as having figures incised upon them, colored both in red or in black, together with very small illustrations of the bow, upon which the figures are so greatly

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, p. 238.
[2] Idem, p. 251. (Visit made in 1826.)
[3] Idem, p. 177.

reduced as to be of no value in the study of pictographic representation of objects, ideas, or gestures.

Mr. Murdoch[1] remarks furthermore:

The only thing that we saw of the nature of numerical records were the series of animals engraved upon ivory, already alluded to. In most cases we were unable to learn whether the figures really represented an actual record or not, though the bag handle already figured was said to contain the actual score of whales killed by old Yuksuna. The custom does not appear to be so prevalent as at Norton Sound. * * * With one exception they only record the capture of whales or reindeer. The exception * * * presents a series of ten bearded seals. The reindeer are usually depicted in a natural attitude, and some of the circumstances of the hunt are usually represented. For instance, a man is figured aiming with a bow and arrow toward a line of reindeer, indicating that such a number were taken by shooting, while a string of deer, represented without legs as they would appear swimming, followed by a rude figure of a man in a kaiak, means that so many were lanced in the water. Other incidents of the excursion are also sometimes represented. On these records the whole is always represented by a rude figure of the tail cut off at the "small," and often represented as hanging from a horizontal line.

We also brought home four engraved pieces of ivory, which are nothing else than records of real or imaginary scenes

The above remarks, with the description of the four specimens elsewhere reproduced, comprise about all the attention that this interesting subject appears to have received during a three years' residence at Point Barrow among natives who surpass almost any other peoples in North America in the graphic arts.

It is fortunate that the National Museum has in its possession the rich collections made by Messrs. Nelson and Turner, both of whom appreciated the value of such material and availed themselves of the opportunity of securing it, as well as information pertaining to the interpretation of many of the pictographic ideas shown.

In his medical and anthropological notes relating to the natives of Alaska, Doctor Irving C. Rosse[2] remarks:

Some I have met with show a degree of intelligence and appreciation in regard to charts and pictures scarcely to be expected from such a source. From walrus ivory they sculpture figures of birds, quadrupeds, marine animals, and even the human form, which display considerable individuality notwithstanding their crude delineation and imperfect detail. * * * Evidences of decoration are sometimes seen on their canoes, on which are found rude pictures of walruses, etc., and they have a kind of picture writing by means of which they commemorate certain events in their lives, just as Sitting Bull has done in an autobiography that may be seen at the Army Medical Museum.

When we were searching for the missing whales off the Siberian coast, some natives were come across with whom we were unable to communicate except by signs, and wishing to let them know the object of our visit, a ship was drawn in a notebook and shown to them with accompanying gesticulations, which they quickly comprehended, and one fellow, taking the pencil and note book, drew correctly a pair of reindeer horses on the ship's jib boom—a fact which identified beyond doubt the derelict vessel they had seen. * * *

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, p. 361.

[2] Cruise of the Revenue-Cutter *Corwin* in Alaska and the Northwest Arctic Ocean, in 1881. Washington, D. C., 1883, p. 37.

The above-named author furthermore refers to natives making pencil and pen-and ink sketches, one in particular having taught himself by copying from the "Illustrated London News." These sketches, "though creditable in many respects, had the defects of many Chinese pictures, being faulty in perspective." Doctor Rosse concludes by saying:

As these drawings equal those in Doctor Rink's book, done by Greenland artists, I regret my inability to reproduce them here. As evidences of culture, they show more advancement than the carvings of English rustics that a clergyman has caused to be placed on exhibition at the Kensington Museum.

Doctor Henry Rink[1] says:

The art exhibited by the Alaska Eskimo in ornamenting their weapons and utensils is often mentioned in travelers' reports from the time when they were first visited by Europeans. To their skill in carving and engraving, we must join this taste displayed in the same way in making their clothing. Again, when we pass from Alaska to the east, we see this relish for the fine arts declining, and in western Greenland proofs of it have been rather scarce. But the latest expedition to the east coast of this country has discovered that a small isolated tribe here in the vast deserts of the extreme east almost rivals the Alaska artists with respect to carving in bone and ornamenting their weapons and utensils. The chief difference is, that in Alaska, engravings illustrating human life and the animals of the country are the most popular objects of the artist, whereas the east Greenlanders excel in small reliefs representing for the most part animals and mythological beings grouped together and fastened with admirable taste and care to the surface of the wooden implements.

With reference to the arts of the Eskimo of Greenland, Doctor Henry Rink[2] remarks:

It must be noticed that though the present Greenlanders appear to have a pretty fair talent for drawing and writing, scarcely any traces of the arts of drawing and sculpture belonging to earlier times remain, with the exception of a few small images cut out in wood or bone, which have probably served children as playthings. The western Eskimo, on the other hand, displayed great skill in carving bone ornaments, principally on weapons and tools.

Drawings made by Greenland Eskimo for Doctor Rink greatly resemble the American schoolboys' efforts. A recent production of precisely like character in almost every respect is from the island of Kolguev, and reproduced herewith in plate, together with the following explanation:

Some interesting illustrations of Samoyed drawings are given by Mr. Aubyn Trevor-Battye in his "Ice-bound on Kolguev," Westminster, 1895. Kolguev Island lies 50 miles north of Arctic Europe, and is separated from the continent by what is known as Barent's Sea. It is about midway, in distance, between Waygat Island—immediately south of Novaya Zemblya—and the eastern extremity of Lapland. The Samoyeds here are entirely isolated, from the fact that they possess no boats that could venture 50 miles across the sea—an interesting cir-

[1] "The Eskimo Tribes." Copenhagen and London, 1887, pp. 15, 16.

[2] "Tales and Traditions of the Eskimo." Edinburgh and London, 1875, p. 69.

cumstance, because they are often, from various supposed or accidental similarities in customs and manners, coupled with the Eskimo, a people with whom the kayak and umiak are the chief methods of transportation.

The illustrations represent ordinary pursuits, and appear to be made upon paper by means of a pencil. The peculiarities of drawing are very much of the same character as the Eskimo sketches obtained by Doctor Rink in Greenland. One example will suffice. Plate 10 represents Samoyeds killing walrus. The black dots on the right are heads of seals, at which a man, lying flat upon the ice, appears to be shooting. The hunter appears as if placed in the air, though in reality the view seems to be from above—as a bird's-eye view—the figure of the man corresponding, in this particular, to like portrayals in several Eskimo engravings on ivory, from Alaska.

Captain Parry mentions having charts made by the natives of Winter Island. A first attempt made "was by placing several sheets of paper before Iligliuk, and roughly drawing on a large scale an outline of the land about Repulse Bay and Lyon Inlet, and terminating at our present winter quarters. * * * Iligliuk was not long in comprehending what we desired, and with a pencil continued the outline, making the land trend, as we supposed, to the northeastward. The scale being large, it was necessary when she came to the end of one piece of paper to tack on another, till at length she had filled ten or twelve sheets, and had completely lost sight of Winter Island * * * at the other end of the table. The idea entertained from this first attempt was that we should find the coast indented by several inlets, and in some parts much loaded with ice, especially at one strait to the northward of her native island, Amitioke, which seemed to lead in a direction very much to the westward. Within a week after this, several other charts were drawn by the natives in a similar way. * * * The coast was here delineated as before, on a very large scale, but much more in detail, many more islands, bays, and names being inserted. It was observable, however, that no two charts much resembled each other, and that the greater number of them still less resembled the truth in those parts of the coast with which we were well acquainted."[1]

An interesting illustration of a Greenland map made by natives of the east coast is given by Mr. G. Holm in his Ethnographic Sketch of Angmagsalikerne.[2] This consists of three blocks of wood, along the edges of which are cut various indentations and curves, leaving projections, all of which are intended to portray the contour of the shore lines between various important points on the east shore of Greenland. Channels, capes, islands, and other topographic features are apparently well reproduced, at least sufficiently clear to permit of their identification when compared with a large chart of the locality referred to.

[1] "Tales and Traditions of the Eskimo," by Doctor Henry Rink. Edinburgh and London, 1875, pp. 162, 163.

[2] Ethnologisk Skizze af Angmagsalikerne (Særtryk af Meddelelser om Grønland. X). Kjøbenhavn. 1887. 8°.



KOLGNEV SAMOYED WALRUS HUNTERS.

Mr. Alfred C. Hadden[1] says:

> All human handiwork is subject to the same operation of external forces, but the material on which these forces act is also infinitely varied. The diverse races and people of mankind have different ideas and ideals, unequal skill, varied material to work upon, and dissimilar tools to work with. Everywhere the environment is different. * * *
>
> The conclusion that forced itself upon me is that the decorative art of a people does to a certain extent reflect their character. A poor, miserable people have poor and miserable art. Even among savages leisure from the cares of life is essential for the culture of art. It is too often supposed that all savages are lazy and have an abundance of spare time, but this is by no means always the case. Savages do all that is necessary for life; anything extra is for excitement, æsthetics, or religion; and even if there is abundance of time for these latter, it does not follow that there is an equivalent superfluity of energy.

The Eskimo are a peculiarly lively people, and keenly appreciate anything ludicrous. Contrary to the Indian generally, they can enjoy a practical joke without thought of resenting such if personal. Such a condition, especially when there is an abundance of food, so that unoccupied time may be utilized for social enjoyment, is one which is apt to foster pursuits that lend gratification and pleasure to the sight and stimulate artistic tendencies. Shamanism prevails extensively and ceremonials are frequent; and apart from this there are numberless individual instances where natives consult the shaman for success in almost every avocation, and also for the exorcism of demons from the body of the sick, and for "hunter's medicine," i. e., securing the help of a shaman that game may be directed in the way of the hunter. It is but reasonable to presume, therefore, that the superstitions and cult beliefs should, to a certain degree, manifest themselves in the art, as well as to be the means of developing a symbolism similar in degree to that found among other peoples living under similar conditions and surrounded by like environment.

The possible introduction into western Alaska of articles of foreign art or workmanship may thus have had but little influence upon the native Eskimo in adopting new designs and patterns, with which he was unfamiliar and the signification of which he did not comprehend, but it may have suggested to him a simplification of approaching forms with which he may already have been familiar.

MATERIALS EMPLOYED.

IVORY.

The material generally used by the Eskimo of Alaska is walrus ivory. This is both durable and sufficiently hard to retain indefinitely, with proper care, the most delicate etchings. Its white or cream tint forms a delicate background for any colored incisions, and in instances where from age or otherwise the material attains a yellow or orange tint, the black etching-like pictographs are really improved in appearance.

[1] "Evolution in Art." London, 1895, pp. 7–9.

The animal which furnishes this material is represented in Plate 11, the specimen technically known as *Rosmarus obesus*, Illiger, being most abundant in Bristol Bay.

The walrus tusks are capable of softening and bending, according to Captain Herendeen, a gentleman of considerable experience in the region under discussion. The tusks are divided longitudinally, one tusk usually furnishing four rods, either by sawing or scraping and splitting. The process described below by Mr. Lucian M. Turner, as pursued in former times and with primitive tools, is still practically the same, though accomplished with modern tools purchased at the traders' or obtained from whalers.

During his protracted residence in southern Alaska, Mr. Turner studied carefully the customs of the Eskimo, and for special instruction in some of the arts the natives worked in his presence, thus affording every opportunity desired.

In response to my inquiry regarding the primitive methods of preparing the ivory drill bows, and their subsequent engraving with pictographs, the following communication was kindly sent to me by Mr. Turner.[1] He says:

The abundance of walrus ivory in the days prior to the advent of Americans (the Russians did not encourage the use of firearms by the natives and stringently prohibited the sale of such weapons except in greatly favored instances) permitted the Innuit to secure the best character of ivory when wanted; hence the selection of a tusk depended entirely upon the want or use to which it was to be applied. Later the best tusks were sold and the inferior qualities retained, as is well shown by the comparison of the older and the more recent implements created from that material.

The tusk selected was rudely scratched with a fragment of quartz, or other siliceous stone, along the length of the tusk until the sharp edge would no longer deepen the groove; the other three sides were scratched or channeled until the pieces of tusk could be separated. Sometimes this was done by pressure of the hand, or effected by means of a knifeblade-shaped piece of wood, on which was struck a sharp blow, and so skillfully dealt as not to shatter or fracture the piece intended for use. The other side, or slabs, were removed in a similar manner.

The piece intended for drill bow or other use was now scraped (rubbed) with a fragment of freshly broken basalt, in which the cavities formed additional cutting edges and aided in the collection of the bone dust. When this was explained to me, I suggested the use of water, but the native (Innuit) smiled and continued his work. I soon saw he knew better than I how to reduce the size of a strip of walrus ivory. This attrition of the surface was continued until the approximate size was reached. The holes or perforations in the ends were produced by means of stone drills after a depression had been made by an angular piece of stone, any stone capable of wearing away the ivory substance. A few grains of sand were put into the shallow cavity and the stone drill started by means of another drill or by a string or thong similar to the manner in making fire.

Various sizes of stone drills were made, and by their use the different holes were produced. It is unusual to find two perforations of the same diameter in any object. These stone drills were used in making the long holes in ivory objects of all kinds.

The final smoothing of the surface of the ivory piece was effected by rubbing it against a fine-grained stone or in the hand where fine sand was held; lastly, two pieces of ivory were rubbed against each other and thus a polished surface produced.

[1] Letter dated December 26, 1894.



WALRUS. (*Rosmarus obesus*, Illiger.)

The etching was done with sharp edges of fragments of flint. Sometimes these stone fragments were skillfully fastened into a piece of wood and used as gravers or even as lancets. In later years files and saws were used to cut the ivory into the required shape, and pieces of steel were used to make the holes. Often a three-cornered file was the instrument used to make the holes.

The drill bow or other implement or utensil was not produced in a day or even in a month, as these articles were usually created for personal use. I have known of such articles being taken along while on a protracted hunting expedition and there worked upon to while away the oftentimes tedious hours of watching game. Again I have known when a native had requested a friend to etch some design, and in their festivals, commemorating their dead, these articles were often presented and highly cherished as gifts. Other articles of ivory often passed as a legacy from a relative to another, and highly valued by the owner.

With respect to the walrus ivory and antler, both of which are employed by the engraver for the portrayal of various figures, Mr. Turner writes:[1]

You will observe many of the larger objects of ivory and antler have outer or engraved portions of harder substance than the inner or core portion. You will perceive that in bent or curved affairs the outer part is always the denser portion of the material. This or these substances warp or curve because of their unequal density of parts. The native saw that heat would unshape a straight piece of ivory or antler, and, taking advantage of what the sun did, he laid aside the piece where it would become moist, and then placed it before the fire, core next to the fire, and warping was the result.

In the winter the heat of the sun was not sufficient to produce harm, but when the warm rays began to heat objects, the native was careful to put his ivory or bone implements of the chase in the shade of a house or on the side of his cache, or within a place where heat could not affect it.

I never saw them dip any such object in hot water or try to bend it by force.

The absence of graphic art among the Eskimo of Greenland, Labrador, and the region between Hudson Bay and the Mackenzie River, can not entirely be attributed to the lack of horn, bone, and walrus ivory, as one or more of these materials appear abundant in certain localities. By graphic art as here named is not intended the ordinary ornamentation by means of lines, dots, etc., nor the sketches on paper referred to by Doctor Rink, but the etchings upon the several materials by means of gravers, to portray graphically records of hunting expeditions, shamanistic ceremonies, and other subjects of which numerous examples are here given passim. The great supply of ivory in Alaska comes from near Port Muller, in Bristol Bay, and the more northern coast and islands. Mr. Dall, who is authority for this statement, adds, furthermore, "that the amount of walrus ivory taken annually will average 100,000 pounds."[2]

Some of the utensils in the National Museum are made of fossil ivory; and of this to Mr. Dall remarks, "that it is not uncommon in many parts of the valleys of the Yukon and Kuskoquim. It is usually found on the surface, not buried as in Siberia, and all that I have seen has been so much injured by the weather that it was of little commercial

[1] Letter dated March 18, 1896.

[2] "Alaska and its Resources." Boston, 1870, p. 504.

value. It is usually blackened, split, and so fragile as to break readily in pieces. It has also been found on the shores of Kotzebue Sound and the Arctic coast."[1]

Captain William Edward Parry,[2] during his second voyage for the discovery of a northwest passage, found the walrus in tolerable abundance in latitude 68° 22′ 21″ north, and longitude (by chronometer) 81° 56′ 55″ west, which places the locality on the east coast of Melville Peninsula. He remarks:

In the course of this day the walruses became more and more numerous every hour, lying in large herds upon the loose pieces of drift ice; and it having fallen calm at 1 p. m., we dispatched our boats to endeavor to kill some for the sake of the oil which they afford. On approaching the ice, our people found them huddled close to, and even lying upon, one another, in separate droves of from twelve to thirty, the whole number near the boats being perhaps about two hundred. Most of them waited quietly to be fired at, and even after one or two discharges did not seem to be greatly disturbed, but allowed the people to land on the ice near them, and, when approached, showed an evident disposition to give battle. After they had got into the water, three were struck with harpoons and killed from the boats. When first wounded, they became quite furious, and one which had been struck from Captain Lyon's boat made a resolute attack upon her and injured several of the planks with its enormous tusks.

The author above cited mentions, furthermore, the occurrence of reindeer and musk ox, both species of animals furnished with horns that might readily furnish excellent materials upon which to inscribe pictorial representations of exploits or events. Great abundance of the former are killed in the summer time, "partly by driving them from islands or narrow necks of land into the sea, and then spearing them from their canoes, and partly by shooting them from behind heaps of stones raised for the purpose of watching them, and imitating their peculiar bellow or grunt. Among the various artifices which they employ for this purpose, one of the most ingenious consists in two men walking directly from the deer they wish to kill, when the animal almost always follows them. As soon as they arrive at a large stone, one of the men hides behind it with his bow, while the other, continuing to walk on, soon leads the deer within range of his companion's arrows. They are also very careful to keep to leeward of the deer, and will scarcely go out after them at all when the weather is calm."[3]

HORN.

Quite a number of specimens of Eskimo workmanship, upon which both simple forms of ornamentation and pictographic records occur, consist of pieces of reindeer horn, obtained from the Barren-ground caribou or reindeer, shaped into the form desired for the purpose. In plate 12 is reproduced a museum group of Woodland caribou (*Rangifer*

[1] "Alaska and its Resources." Boston, 1870, p. 479.

[2] The Journal of a second voyage for the discovery of a northwest passage from the Atlantic to the Pacific. London, 1824, p. 220.

[3] Idem, pp. 420, 421.



REINDEER, OR WOODLAND CARIBOU. (*Rangifer tarandus caribou*, KERR.)



WEAVING UTENSILS OF HORN.

EXPLANATION OF PLATE 14.

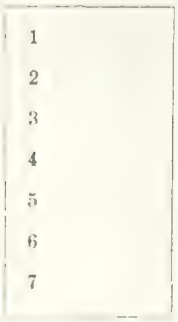


Fig. 1. PICTOGRAPH ON BONE.
(Cat. No 33315, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 2. RECORD ON BONE.
(Cat. No. 129277, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 3. KANTAG OR BUCKET HANDLE OF HORN.
(Cat. No. 37742, U. S. N. M. Northern part of Norton Sound. Collected by E. W. Nelson.)

Figs. 4–7. KANTAG HANDLES OF ANTLER.
Cat. Nos. 33311, 33309, 33312, and 33310, respectively, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)



HUNTING RECORDS OF HORN.

EXPLANATION OF PLATE 15.

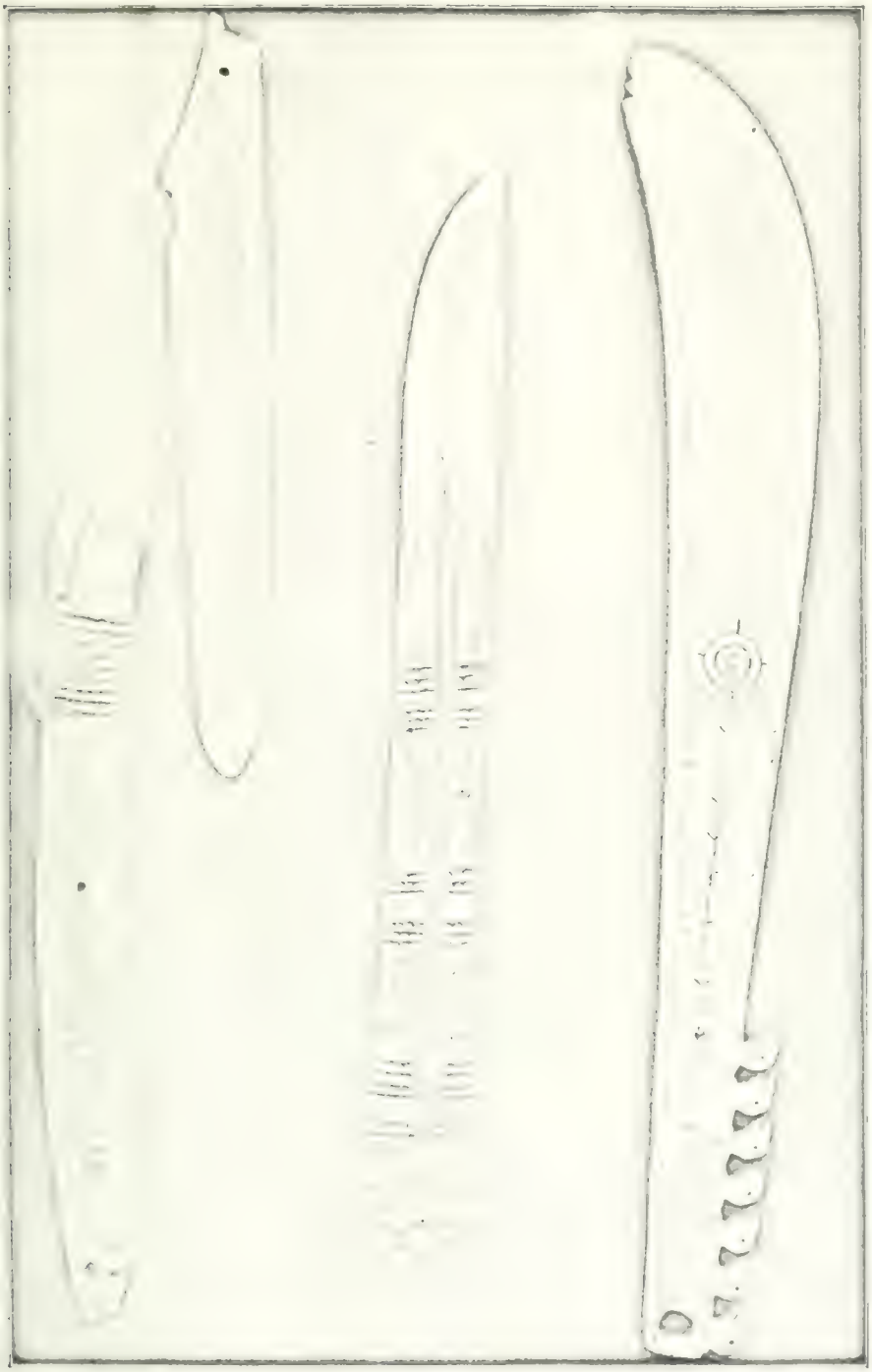


Fig. 1. DECORATED KNIFE HANDLE.
(Cat. No. 45488, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 2. KNIFE WITH IRON BLADE.
(Cat. No. 48530. Kotzebue Sound. Collected by E. W. Nelson.)

Fig. 3. BONE KNIFE.
(Cat. No. 73026, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 4. IVORY KNIFE.
(Cat. No. 36576, U. S. N. M. Chalitmut. Collected by E. W. Nelson.)



NATIVE KNIVES.

EXPLANATION OF PLATE 16.

DECORATED DANCING MASK. Used by shamans in ceremonials. It is made of wood, painted white, and ornamented with pictures of masks, and with feathers.
(Cat. No. 64258, U. S. N. M. Kuskokwim. Collected by E. W. Nelson.)



DANCING MASK OF WOOD.

tarandus caribou Kerr), a variety found farther south than the Barren-ground variety, which is believed to be the one best known to the Alaskan Eskimo. Several utensils employed in net weaving are shown in plate 13, figs. 1, 2, 3, and several short, stout slabs of horn, neatly ornamented with animals and short records of hunting exploits, are represented in plate 14, figs. 2–7.

No specimens of horn of either the mountain sheep or the mountain goat, both of which are employed by various other and more southern coast tribes, have as yet been found in the collection of either the National Museum, or that of the Alaska Commercial Company, in San Francisco, California.

BONE.

Another article very often met with, inscribed with various kinds of ornamentation and pictorial work, consists of bone, both the larger bones of the legs and ribs of reindeer, and the humerus of the swan, the latter serving as tubes for needle cases or snuff tubes. Specimens are shown farther on.

A small piece of bone, rudely incised, is shown herewith in plate 14, fig. 1.

Some ornamented bone knives will be referred to under the special class of subjects to which the records pertain. Such weapons are employed in skinning and sometimes in cutting up animals, and native portrayals of such avocations are also reproduced in several illustrations. The handles, and sometimes the blades of such knives, some with steel blades used in working and fashioning the ivory rods and bag handles, are decorated as in plate 15, fig. 1.

WOOD.

Wood is sometimes used for various articles, such as boxes for tobacco, small utensils and tools, and women's trinkets. These are frequently incised, but the ornamentation is limited to simple figures composed of straight lines, and perhaps dots.

In the country of the Magemuts—who inhabited the vicinity of Cape Romanzoff and reach nearly to the mouth of the Yukon River—wood is reported as very scarce, and is an article of trade.[1]

Wood is sometimes used for ornaments, masks, and toys, the surface of which may be whitened, and upon this other designs are portrayed. Such an instance is shown in plate 16, consisting of a dancing mask.

The Greenland map, before mentioned, may also be noted in this connection.

The only other examples in the collections of the National Museum are from Point Barrow, and may here be reproduced, together with the descriptions given by Mr. Murdoch:

This consists of a toy obtained in Point Barrow and deposited in the

[1] "Alaska and its Resources." Boston, 1880, p. 407.

National Museum. It is a child's toy, resembling what American boys would call a "buzz" toy, and which would by them be made of the round tin top of a shoeblacking box.

The specimen herewith reproduced in fig. 1 is of pine wood, rather

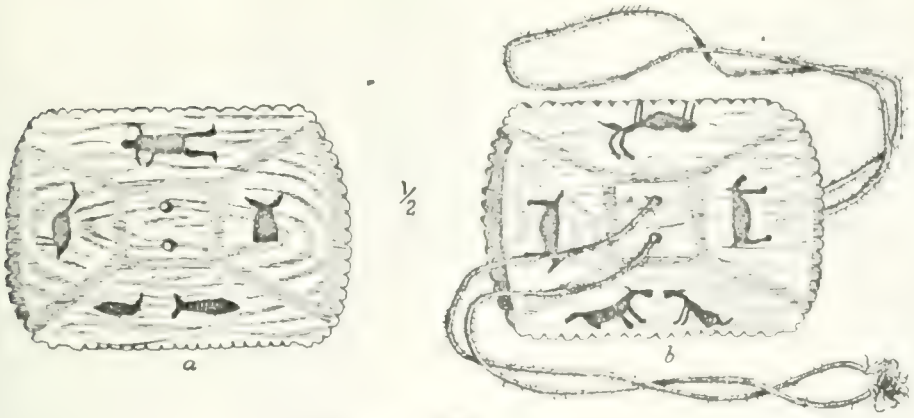


Fig. 1.

WOODEN "BUZZ" TOY. POINT BARROW.

oblong in shape, and through the two perforations in the middle are passed the ends of a sinew cord. The specimen is about 3.5 inches in length. One end has a border of black on both faces, while the other has a similar border of red. The middle square, 1 inch across, is

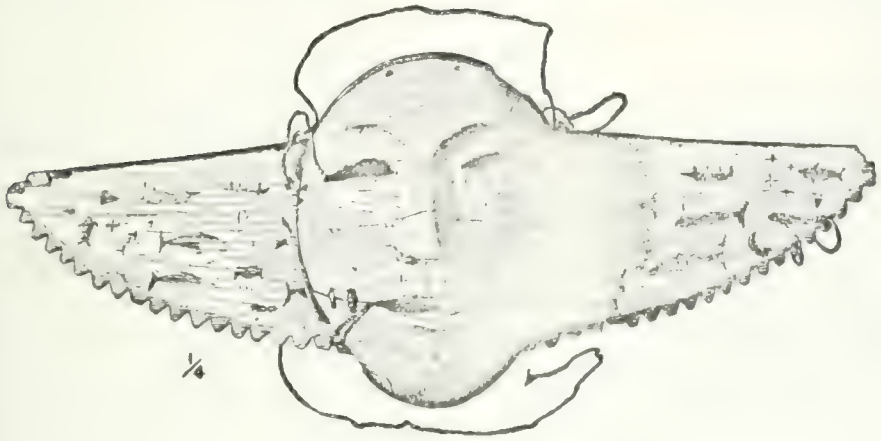


Fig. 2.

WOODEN MASK AND DANCING GORGET.

also in red, and from the corners are lines extending out to the respective corners of the tablet. The compartments thus formed are ornamented with figures of various objects. On the left end face of the illustration *a* is a goose; the next at the top is a man with one hand

elevated and the other apparently so curved as to pretend to touch himself, indicating that he is contemplating something or has performed some deed; the third space contains the conventional figure of a whale's tail to indicate that animal, and in the remaining space, at the bottom, is a whale with what appears to denote a float attached to a harpoon line.

The other side of the tablet, that bearing the cord, has in the left-hand space an animal probably intended to denote a wolf; the upper panel has within it a deer, the horns being turned back, whereas to denote the reindeer they would be turned forward; the next, like the first, appears to be a wolf, while the fourth has two animals seated upon their haunches, facing one another, after the manner of dogs, although they appear to closely resemble the first and third, which are believed to denote wolves, as before stated.

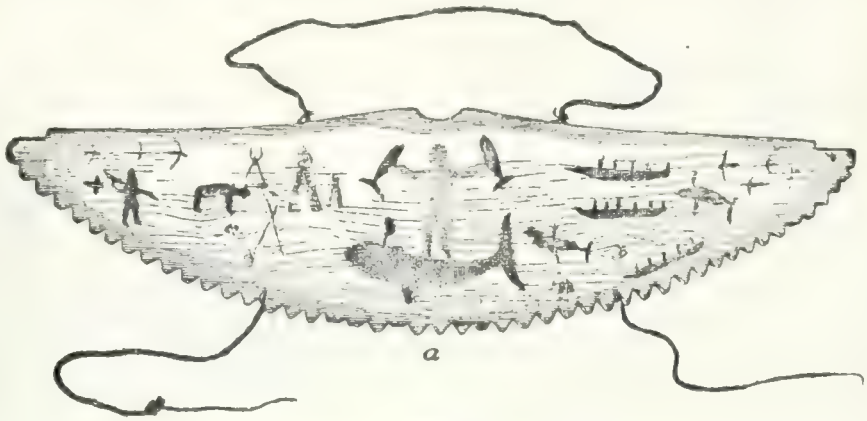


Fig. 3.

DANCING GORGET OF WOOD; FROM POINT BARROW.

An old and weatherworn mask from Point Barrow is shown in fig. 2. It is made of spruce wood, and measures 7½ inches in length. It is peculiar in having the outer corners of the eyes somewhat depressed, and in addition to the mustache and imperial has a broad "whaleman's mask" drawn with black lead across the eyes.

Mr. Murdoch[1] says of the specimen that "this mask has been for a long time fastened to an ornamented wooden gorget, and appeared to have been exposed to the weather, perhaps at a cemetery. The string is made of unusually stout sinew braid."

A decorated gorget is shown in fig. 3. It is from Point Barrow, and Mr. Murdoch[2] describes it thus:

It is made of spruce, is 18.5 inches long, and has two beckets of stout sinew braid, one to go round the neck and the other round the body under the wearer's arms.

[1] Ninth Annual Report of the Bureau of Ethnolgy for 1887–88, 1892, pp. 367, 368, fig. 367.

[2] Idem, p 370, fig. 372a.

The figures are all painted on the front face. In the middle is a man painted with red ocher; all the rest of the figures are black and probably painted with soot. The man with his arms outstretched stands on a large whale, represented as spouting. He holds a small whale in each hand. At his right is a small cross-shaped object which perhaps represents a bird, then a man facing toward the left and darting a harpoon with both hands, and a bear facing to the left. On the left of the red man are two umiaks with five men in each, a whale nearly effaced, and three of the crow-shaped objects already mentioned. Below them also, freshly drawn with a hard, blunt lead pencil or the point of a bullet, are a whale, an umiak, and a three-cornered object the nature of which I can not make out.

A similar gorget, from the same place, is shown in fig. 4, and appears to have been long exposed to the weather, perhaps at a cemetery, as the figures are all effaced except in the middle, where it was probably "covered by a mask as in fig. 2, which was from the same village."

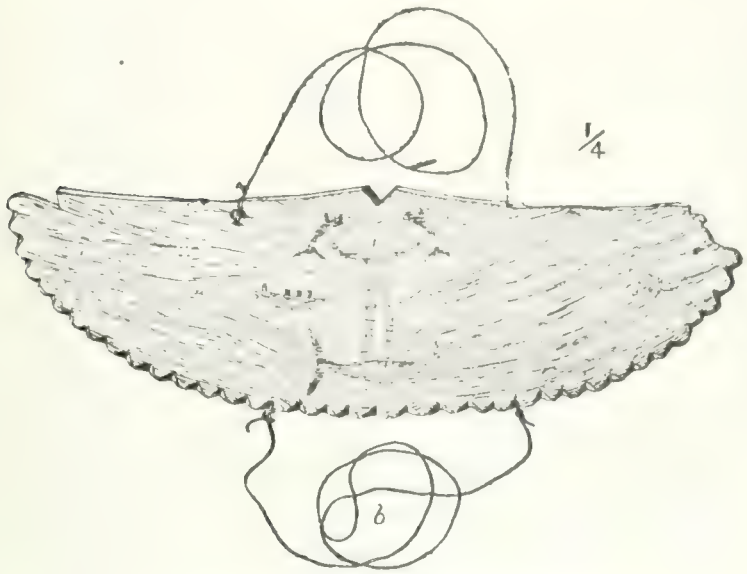


Fig. 4.

DANCING GORGET OF WOOD, FROM POINT BARROW.

Mr. Murdoch says of this that "there seems to have been a red border on the serrated edge. In the middle is the same red man as before standing on the black whale and holding a whale in each hand. At his right is a black umiak with five men in it, and at his left a partially effaced figure which is perhaps another boat." The strings are for securing the gorget to the dancer's neck and body.

Mr. Murdoch[1] remarks of the human figure holding the whales: "This man or giant, able to hold out a whale, appears to be a legendary character, as we have his image carved in ivory. We unfortu-

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, p. 371.

nately did not succeed in learning anything more about him, except that his name (apparently) was 'Kikamigo.'"

"These gorgets appear to have gone out of fashion," continues the above-named author, "as we saw none which were not very old, or which appeared to have been used recently."[1]

METALS.

Copper, brass, and white metal (consisting of block tin, lead, etc.), as well as an occasional specimen of iron, will be met with bearing rude designs in ornamentation. Very little is done also in silver, especially in the manufacture of bracelets, an art which was imported from the Thlinkit, who, in turn, obtained their first suggestions and patterns from the Haida Indians. Mr. Murdoch reports the practice of engraving iron-pipe picks and flint steels at Point Barrow.

SKINS OF ANIMALS.

Tanned hides of walrus are sometimes used for purposes where a touch here or there of ornamentation seems to be desired by the native Eskimo.

Reindeer skin and the small peltries used for articles of clothing are sometimes decorated with designs in color by means of small wooden tools resembling spoons, of which the back of the bowl is cut into patterns, which are then moistened with the pigments or stains, and finally impressed upon the skin or fabric. This process is very like that practiced by the South Sea Islanders in decorating some forms of tapa cloth.

TATTOOING.

The human skin is also used for the portrayal of various designs, the practice of tattooing varying among the several tribes or bands of Eskimo between Alaska and Greenland. Plate 4 represents a Port Clarence girl with typical tattooing upon the chin. In the female the designs are usually limited to such vertical bars upon the chin. On Plate 22, fig. 7, is also shown tattooing by pictography upon a carved face.

Referring to the Eskimo of Melville Peninsula, Captain Parry[2] remarks:

> Among their personal ornaments must also be reckoned that mode of marking the body called tattooing, which, of the customs not essential to the comfort or happiness of mankind, is perhaps the most extensively practiced throughout the world. Among these people it seems to be an ornament of indispensable importance to the women, not one of them being without it. The operation is performed about the age of ten or sometimes earlier and has nothing to do with marriage, except that, being considered in the light of a personal charm, it may serve to recommend them as wives. The parts of the body thus marked are their faces, arms, hands, thighs, and in some few women the breasts, but never the feet, as in Greenland.

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, p. 372.

[2] The journal of a second voyage for the discovery of a northwest passage from the Atlantic to the Pacific. London, 1824.

The operation is very expeditiously managed by passing a needle and thread, the latter covered with lamp black and oil, under the epidermis, according to a pattern previously marked out upon the skin. Several sketches being thus taken at once, the thumb is pressed upon the part, while the thread is drawn through, by which means the coloring matter is retained and a permanent dye of a blue tinge imparted to the skin.

In the absence of needles, says the author, a strip of whalebone is used as a substitute. It is furthermore stated that the patterns "are nearly the same in all," and that "a little of this kind of mark is on the back part of their hands; and with them we understood it to be considered as a souvenir of some distant or deceased person who had performed it."

Marks of distinction by tattooing are employed by the men to denote success in whaling. "Those men who are or have been captains of whaling umiaks that have taken whales have marks tattooed somewhere on their person, sometimes forming a definite tally."[1]

Mr. Murdoch refers to an example in the person of a native named Añoru, who had a broad band tattooed across each cheek, extending from the corner of the mouth backward toward the lobe of the ear. These bands were made up of many indistinct lines, which were said to indicate "many whales." Another instance was that of a native who "had the 'flukes' of seven whales in a line across the chest."

The wife of the former "had a little mark tattooed on each corner of her mouth, which she said were 'whale marks,' indicating that she was the wife of a successful whaleman."[1]

McClure notes that at Cape Bathurst he observed that a successful harpooner had a blue line drawn across the bridge of the nose,[2] and, according to Armstrong, he has a line tattooed from the inner angle of the eye across the cheek, a new one being added for every whale he strikes.[3] Father Petitot remarks that in this region whales are "scored" by "tattooing crosses on the shoulder, and that a murderer is marked across the nose with a couple of horizontal lines."[4] It is interesting, says Murdoch, that one of the "striped" men at Nuwŭk told us he had killed a man. In east Greenland tattooing is similarly performed. Holm, remarking, in reference to the residents at Angmagralik, that "Mændene ere kun undtagelsvis tatoverede og da kun med enkelte mindre Streger paa Arme og Haandled. for at Kunne harpunere godt."[5]

INSTRUMENTS AND COLORS.

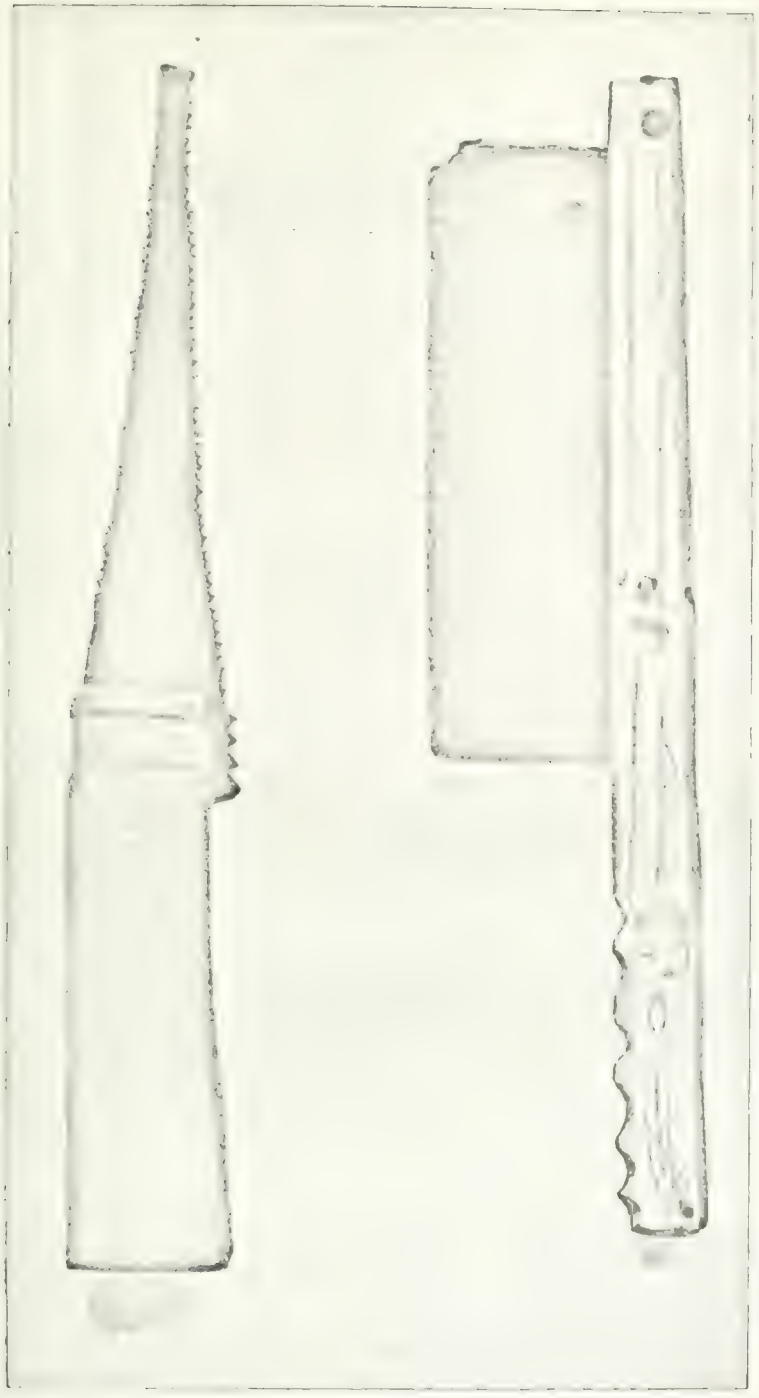
Various instruments are employed by the Eskimo in preparing for the reception of pictographs the several substances used for that purpose. The pigments are now chiefly obtained from the trader,

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, p. 139.
[2] Discovery of Northwest Passage, p. 93.
[3] Personal Narrative, p. 176.
[4] Monographie, etc., p. xxv.
[5] Geogr. Tidskrift VIII, p. 88.

EXPLANATION OF PLATE 17.

Fig. 1. Saw
(Cat. No. 48161. Joint Museum. Collected by E. H. Dean.)

Fig. 2. Saw
(Cat. No. [illegible]. Ashmolean Museum. Collected by C. P. Chandler.)



SAWS FOR CUTTING IVORY.

though in former times they were prepared from mineral and vegetable substances.

Plate 17 represents two saws used in cutting ivory. The specimen shown in fig. 1 is from Port Clarence, and appears to be made of a piece of a steel saw of American manufacture, but from the appearance of the specimen the teeth were filed into it by the native. It is hafted to a piece of ivory and secured by means of a piece of metal, apparently a nail.

Plate 17, fig. 2, represents a saw of a thinner piece of metal with a very irregularly filed cutting edge. It is attached to a piece of ivory, and was obtained at Anderson River. This instrument was used in splitting walrus tusks lengthwise, as well as cutting them into shorter pieces when necessary. In the bone or ivory comb represented in Plate 22, fig. 4, may be seen the effects of native sawing and an attempt to make teeth.

Several forms of knives before referred to are illustrated in plate 15. The upper left-hand figure (fig. 1) is a wood-working knife, obtained at St. Michaels, and sent to the Museum by Mr. E. W. Nelson. The handle is made of a rib, a slot in the forward end being made there to receive the laterally curved blade, and in this respect resembling to a limited degree the type used by most of the Indians of the Great Lakes. The blade is secured by means of a thong.

Upon the back or obverse side of the handle is a depression one-eighth of an inch deep and five-sixteenths of an inch in diameter, which shows ample evidence of having been used in holding a fire drill, or some other variety of drill. Upon the front side of the handle appears the outlines of three sailing vessels, immediately behind the right-hand figure being a pit surrounded by a circle with four radiating lines, beyond which are indications of an attempt to make other concentric circles.

These knives are used in fashioning wood into various forms, and also, sometimes, in shaving the roughened edges of ivory rods.

The specimen at the upper right hand (fig. 2) is from Kotzebue Sound. The handle, like the preceding, is made of a rib, while the arrow-shaped piece of metal constituting the blade is secured by means of two rivets, one of iron and one of copper, while the anterior, a third one, has fallen out, leaving only the perforation.

The cutting edge is slightly concave from point to base and may have been made so intentionally for the purpose of causing slight convexity to the surface operated upon. This style of knife is also sometimes employed in shaving down ivory rods to the desired form and thickness.

The third specimen (fig. 3) was obtained at Norton Sound. This bone gouge or chisel represents the type of tool used for stripping off birch bark for canoes before the iron tools were introduced. It is apparently made of the leg bone of a reindeer and bears ornamentation of peculiar interest. The transverse bars consist of parallel lines by twos, and

several times by threes, between which is the alternating dentate pattern, the result of the interlacing, or alternate approximation, of points, the intervening surface resulting in a fine zigzag pattern. The simple zigzag lines occur near the middle of the specimen, while the small lateral ornaments resembling bird tracks are conventional tree patterns.

The incisions are all stained with what appears to be red ocher. Total length is $12\frac{3}{16}$ inches; has a sharp cutting edge and shows evidence of much use.

The ivory snow knife (fig. 4) was collected by Mr. E. W. Nelson at the Chalitmut village, and occupies the bottom place on plate 15. The specimen is $14\frac{1}{8}$ inches in length and $1\frac{1}{16}$ inches across the widest part of the tolerably sharp blade. The bottom of the handle is ornamented with seven projections representing seal heads, the eyes and mouth of each being clearly cut and blackened. Along the top or back of the blade are three parallel creases, crossed at intervals by short lines. The upper edge of each side of the blade has two parallel lines extending from the base to near the tip, from the lower one of which extend short ⩽ shaped ornaments resembling the legs on some of the Eskimo mythic animals. The line, extending almost halfway along the bottom edge of the blade, has single short lines projecting backward, at a slight angle, at intervals of about half an inch apart. This is a simpler form of ornament, though of the same type as that upon the upper side of the blade.

Along the center, on either side, is a line terminating at the middle of the blade in a circle within which is another and a central perforation filled with a hard wooden peg.

The central line on each side has simple, short, oblique lateral incisions as ornaments, while the outer circle has lines radiating at the cardinal points.

On plate 18 are reproduced three bone skin dressers, figs. 1 and 3 being obtained from the Thlingit Indians, while fig. 2 was secured at Sitka, no specific tribe being referred to in the records accompanying the object.

The ornamentation on plate 18, fig. 1 consists chiefly of three rows of small squares being arranged in order to resemble a checkered surface, the one series of squares being plain while the other is specified by cross lines. At the upper edge, embracing a little more than one-third of the surface, is a longitudinal surface marked by pairs of diagonal lines.

The specimen on plate 18, fig. 2, has most of the surface of one side divided off into three rectangles, all but one of the lines forming the boundaries, being decorated on the inner side by broken series of small triangles. This is a common Eskimo pattern, but has not the opposing fellow so as to form the zigzag. The pattern does not occur on other specimens of like workmanship from the Thlingit Indians, or from Sitka, excepting in the specimen on plate 46, fig. 3, in which two

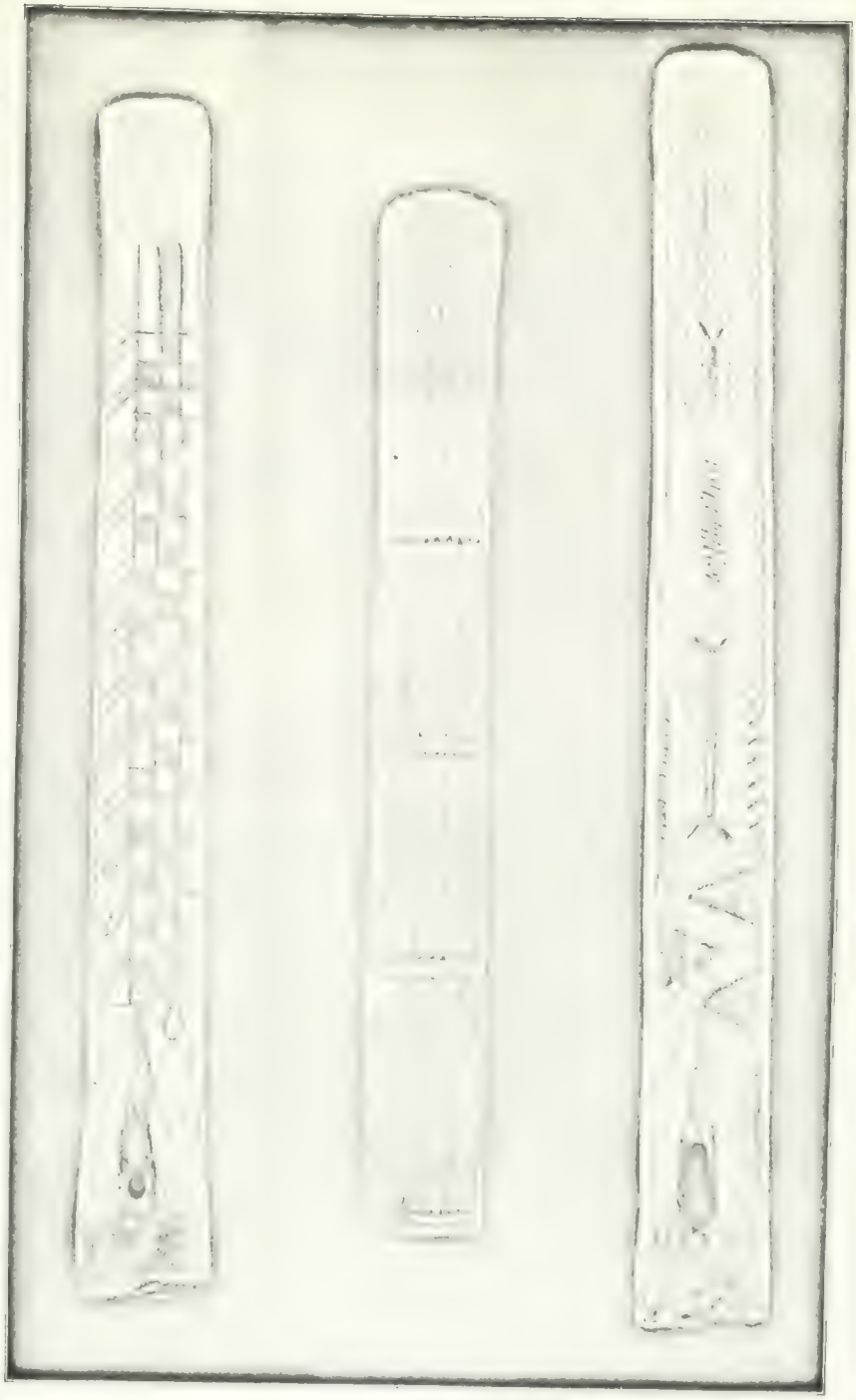
EXPLANATION OF PLATE 18.



Fig. 1. SKIN DRESSER.
(Cat. No. 168360, U. S. N. M. Thlingit Indians. Collected by Lieut. G. F. Emmons, U. S. N.)

Fig. 2. SKIN DRESSER.
(Cat. No. 74954, U. S. N. M. Sitka. Collected by John J. McLean.)

Fig. 3. SKIN DRESSER.
(Cat. No. 168358. Thlingit Indians. Collected by Lieut. G. F. Emmons, U. S. N.)



BONE SKIN DRESSERS.

EXPLANATION OF PLATE 19.

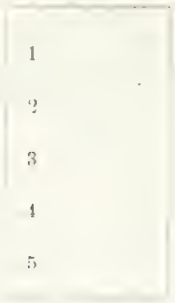


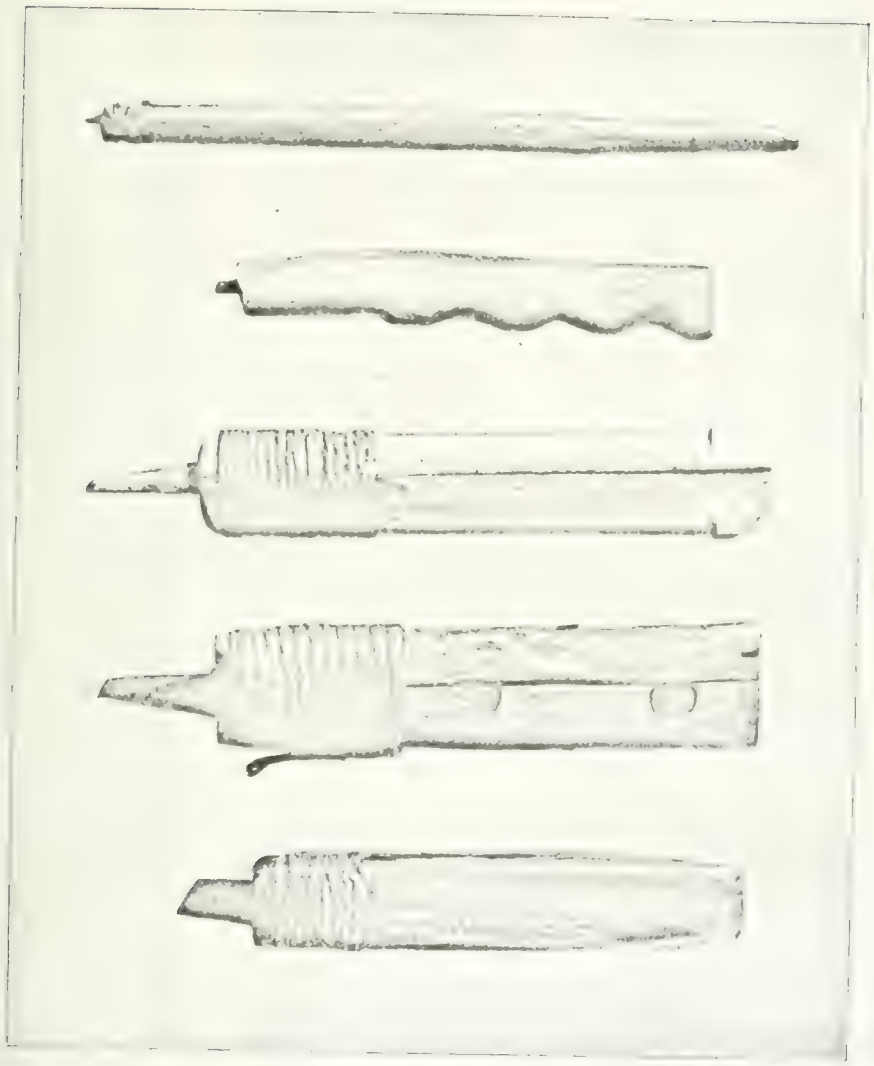
Fig. 1. GRAVER.
(Cat. No. 48549, U. S. N. M. Kotzebue Sound. Collected by E. W. Nelson.)

Fig. 2. GRAVER.
(Cat. No. 2307, U. S. N. M. Anderson River. Collected by R. McFarlane.)

Fig. 3. GRAVER.
(Cat. No. 2094, U. S. N. M. Anderson River. Collected by R. McFarlane.)

Fig. 4. GRAVER.
(Cat. No. 46080, U. S. N. M. Port Clarence. Collected by W. H. Dall.)

Fig. 5. GRAVER.
(Cat. No. 44591, U. S. N. M. Cape Nome. Collected by E. W. Nelson.)



VARIOUS FORMS OF GRAVERS.

short rows of triangular figures appear near the middle, while at the left are three large triangular patterns placed so as to form a zigzag, or V-shaped, design, this being merely an enlarged illustration of the smaller patterns above noted. At the other end of this specimen is a group of isolated transverse lines; from the middle of the end is issuing a continuous horizontal line, 1¼ inches in length, terminating in a bifurcation exactly resembling the common Eskimo conventional tree pattern. In the middle space of the tool is a pair of parallel horizontal lines, also terminating in similar bifurcations; this, however, may be meaningless, though it resembles a doubletree symbol, or it might also be taken as denoting a seine shuttle, examples of which are given in several illustrations.

Mr. L. M. Turner writes:[1]

> Circles are made with a graver; formerly a sharp corner of flint set in a stick. * * * In later days a three-cornered file, one worn out, was substituted, and the manner in which I saw him—an expert ivory worker at St. Michaels—use it was simply pushing it from him, turning the ivory round as the circle was graved, a little deeper at each turn.
>
> The straight decorated lines were made as two deep channels at a suitable width apart; the serrations were made by pushing from the outer edge of the ridge toward the groove. These sculptures are not made in a day, week, or month; many objects are not completed in years, as many of them are life histories of the individual. The Innuit is never in a hurry, and each thinks he has a lifetime before him.

The Kaniags or Kaniaks, the inhabitants of the island of Kadiak and surrounding islands, "are possessed of great skill in carving figures and other objects from walrus tusks, the material being obtained from the Alaska Peninsula." Mr. Ivan Petroff,[2] whose words I am quoting, remarks furthermore:

> They also make very nicely carved snuffboxes of whalebone. Formerly all these objects were worked with stone implements, but the use of iron has long been known to the Kaniags, who used it at the arrival of the Russians. The savages said that iron was occasionally cast upon the beach by the waves [sic!].

Reference has been made to the steel-pointed native-made gravers used in various processes of engraving. In plate 19 are represented five instruments, fig. 1 of which was obtained at Kotzebue Sound by Mr. E. W. Nelson. The handle, a little over 5 inches in length, is made of bone. A slight slot was cut at the large end, into which was inserted a short piece of iron or steel, secured by wrapping with thin cord, apparently of sinew. The point of the instrument is acute, and admirably adapted for etching or scraping.

The second figure from the top (fig. 2) was secured at Anderson River by Mr. R. McFarlane. The bone handle bears indentations, so as to admit of secure grasping. The point of steel is inserted in the end

[1] Letter dated March 18, 1896.

[2] Report on the population, industries, and resources of Alaska. Tenth Census, 1880, VIII, p. 141.

and filed down to a narrower width than that hidden from view. The point measures $\frac{3}{32}$ of an inch in height and is only about $\frac{1}{16}$ of an inch thick. The front edge is not at right angles to the sides, and thus furnishes a better and sharper cutting edge.

The third or middle specimen (fig. 3) is from the same locality as the preceding. The handle consists of two pieces of bone, so arranged as to unite smoothly and also to hold in place a piece of steel, which has been sunk partly in each half of the handle by means of a slot made by sawing. The two pieces are finally tied together with a sinew cord. The apex of the graver is rather more acute than in the preceding specimen.

The back of the tool is also ground to a cutting edge, to be used in scraping smooth such surfaces requiring treatment previous to engraving.

An interesting specimen occupies the fourth place in the series (fig. 4). This is from Port Clarence, where it was obtained by Mr. W. H. Dall. The two pieces of bone composing the handle are secured to one another by means of a peg passing vertically through them, and two wooden pegs, of no special use apparently, are inserted in handle transversely. Like in the preceding, a slot has been made with the front of each piece so as to secure the flat piece of metal constituting the blade. The point is neatly finished, and it will be observed has a very acute tip turned downward so as to afford the best possible means for fine engraving in hard material. The two pieces of handle are tied together with a leather or skin thong. The entire length is $4\frac{7}{8}$ inches.

The fifth and lower specimen (fig 5) is from Cape Nome, and was secured by Mr. E. W. Nelson. The handle is composed of two pieces of walrus ivory; two pegs pass vertically through them to hold them together, while the broad blade is, as usual, inserted in slots made in both pieces of handle. The wrapping consists of sinew or hide, being so covered with a layer of hard grease and dirt as to prevent identification. The front edge of the instrument is at an angle sufficient to furnish an excellent cutting edge. The entire length is $4\frac{3}{16}$ inches.

In addition to the above remarks concerning the second specimen, it is of interest to call attention to the fact that upon the right-hand side of the handle there occurs a rounded cavity, made with a rude implement, which may have been intended for use in drilling—by steadying the drill at the top. Such depressions and for such purposes are not rare.

Mr. L. M. Turner, Captain Herendeen, and others to whom reference is made elsewhere state that formerly the natives used fragments of flint or quartz with which to engrave and decorate specimens of ivory, bone, and other materials used for utensils and weapons. The small fragments of siliceous material were inserted in the end of wood or bone handles, though sometimes they were large enough to use without the aid of a handle.

After a careful examination of all the engraved specimens of Alaskan

art work, in the collections of the National Museum at Washington, District of Columbia, and the Alaska Commercial Company in San Francisco, California, it appears that the more modern specimens of ivory are engraved in a manner indicating the use of steel-pointed instruments, such as are shown in plate 19. The lines or incisions are frequently very pronounced and represent deep regular channels in which the two sides converge to a sharp cut beneath or at the bottom, resembling a V-shaped groove of elegant uniformity. In the older specimens of ivory carving, such as are very much surface worn by frequent and long continued handling, or have been in the possession of certain individuals and families for a long time, the creases have become less deep, and where they are sheltered by lateral ridges they still indicate an origin of a more primitive kind, being made, perhaps, by less experienced artists or with ruder instruments. The numerous hair-line scratches and frequent apparently accidental slips of the point would indicate the use of a point less acute than the modern steel gravers made by the natives at this day, and which are herewith illustrated.

In some of the later engravings the grooves are regular, deep, and pronounced, the cut being sometimes vertical, so as to show the lateral edges at right angles to the horizontal base of the groove, indicating a strong hand pressure of a square cutting edge. The greater number of lines are made, evidently, by using an angle of the graver, the result being similar to that resulting from the use of a variety of the three-sided or triangular graver used in wood engraving.

An examination of the ends of short lines, especially those employed in simple ornamentation, illustrates at once that most of them are made by cutting from the outside toward the main object or body of the design. In this manner the very short lines resemble arrow-headed ornaments or projections, or minute triangles. This is particularly apparent in some of the specimens referred to in connection with conventionalizing and to the art of the Polynesians.

Drills and simple borers appear to have been made by securing to wooden handles rather thin but elongated pieces of chalcedony, or similar siliceous minerals. Slight depressions or pits apparently made by such tools are frequent, and it is probable that before the introduction of metals nearly all perforations in bone, wood, and probably in ivory, were thus made. In larger cavities in bone and ivory, such as would serve for steadying the rear or upper end of a fire-drill during rotation of the latter, the origin thus attributed is often very clear, the rounded cavity, when not yet entirely smoothed off by use, retaining the marks of workmanship made by a crude tool or instrument.

That circles were made by turning the specimen to be engraved and holding firmly the stone-pointed graver and pushing it toward the specimen has been affirmed by one correspondent; but such instances were no doubt rare, and it is believed that no example of a circle, nucleated or otherwise, made in this offhand manner will be found in the extensive collection of the National Museum.

Captain Herendeen states that sometimes a fragment of flint—though generally one of iron or steel and consisting of a narrow strip of perhaps the width of a large nail—was filed at the end so as to receive a V-shaped notch, one point being a little longer than the other. It is well known that pieces of hoop iron, nails, and other articles of iron and steel are similarly employed by our native Indian tribes, and it would indeed be a strange fact if the Eskimo did not seize upon and utilize such a valuable substance as metal when the opportunity was presented, and after having seen sailors and others work them into desired shape by hammering or filing.

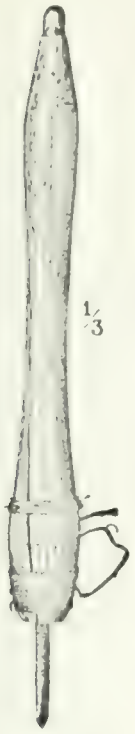


Fig. 5.
DRILL FROM POINT BARROW.

The nuclei of many—I might almost say nearly all—concentric circles are deeper than the circles surrounding them. This may be the result of having the longer point of such a V-shaped notched tool forced deeper into the material to be decorated, giving the instrument a secure point for rotation, so that the outer or cutting end may not so readily slip from its intended course.

In this manner, and for making concentric rings, one such tool would be necessary for each size of circle required. Reference to the various illustrations will elucidate this more clearly.

Accurate measurements of the diameters of circles upon any particular specimens indicate the use of a number of such instruments with different sized bits, and varying distances between the points.

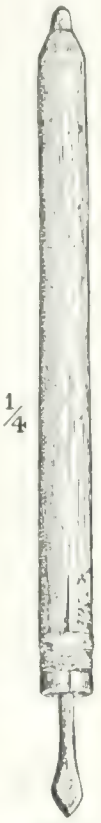


Fig. 6.
DRILL FROM POINT BARROW.

Another class of circles, with nuclei, appear to be made with auger bits, the central pin being filed to a sharp point, while the outer vertical cutting edge is also filed so as to cut toward the surface of the ivory, and to remove the texture upon which the auger is impressed. The grooves resulting from such work and with such an instrument are sharply defined, with lateral sides and a nearly level bottom, while the circles are mathematically accurate in form. An illustration of such work is reproduced in plate 19, the specimen being from a locality north of Norton Sound.

The smaller and more delicate circles occur on earrings and other like objects of personal adornment, and upon such articles of frequent need as sewing utensils, examples of which are given in a number of illustrations.

Upon the pipestems also are shown excellent results of such aboriginal work, the ivory stem shown in plate 20, bearing eight sets of circles, that one nearest the brass-bound mouthpiece consisting of but a single circle with its central pit or nucleus one-eighth of an inch deep, while the circle itself is but a mere hair line in comparison; the next two figures consist of two circles each with the central spot, the next four having three circles each beside the central point, while the last, or eighth, has four concentric rings and the central nucleus.

According to measurement, the inner or primary circle, in all, is three-sixteenths of an inch in diameter; the next larger one, beginning with the second ring, is one-fourth of an inch in diameter; the next larger, being the outer circle on the fourth figure, measures three-eighths of an inch, while the outer circle of the last figure, having four rings, measures one-half of an inch in diameter.

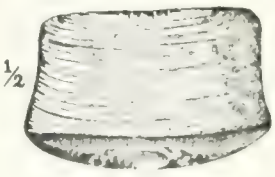


Fig. 7.

DRILL MOUTHPIECE WITHOUT WINGS.

The central pit or nucleus in each of the circles, excepting two, is filled with a tightly fitting wooden peg, smoothed off level with the surrounding surface, and carefully blackened to accord in color with the surrounding blackened circles.

This regularity in diameter of the several sizes of circles indicates the use of a bit, or tool, of foreign manufacture which the natives obtained probably through barter. The sizes increase by one-sixteenth of an inch each time a change is made corresponding exactly to the regulation sizes used by carpenters and other workers in wood.

Drills are used for perforating all kinds of materials, wood, bone, ivory, and even metals, and are much more common than awls among the more northern natives. The handles are of wood and sometimes bone, the point being made of iron or steel, though before the introduction of metals flint and similar siliceous materials were employed in arming the tool.



Fig. 8.

DRILL MOUTHPIECE WITH SOCKET OF IRON.

The illustration given in fig. 5 is a bone pointed drill from Point Barrow, while fig. 6 represents one with an iron drill mounted in a handle of spruce wood which was once painted with red ocher. When the natives use the drill and bow, both hands are necessarily occupied, one in steadying the object to be perforated while with the other the bow is held and moved horizontally to rotate the drill.

Therefore, to produce the necessary pressure upon the top of the drill, the native puts into his mouth a drill mouthpiece in which the top of drill rotates. Fig. 7 represents a mouthpiece with an iron

socket, while in fig. 8 is another also of wood, but holding a socket of syenite to withstand the friction of the drill.

Some of the specimens in the collections of the National Museum are decorated with the usual deep incisions found in Point Barrow bag handles and tinted with what appears to be red ocher.

In several instances the wooden pegs inserted in the perforations made to represent eyes, ears, or nostrils, of small animal forms, are colored, and in other specimens, such as earrings, glass or porcelain beads are inserted instead.

After the etchings have been made in the ivory or other material, the creases or incisions are colored so as to bring out the design in sharp contrast to the surrounding surface.

Mr. Turner informs me that "the black substance used to color the etched lines was from the charcoal prepared from burned grass, then powdered, mixed with oil, and rubbed into the etching. Afterwards the begrimed hand of the owner was sufficient to renew the coloring matter. Some of the etchings are colored with a red substance which (an innovation in the art) is procured from the traders' stock."

Mr. W. H. Dall remarks:

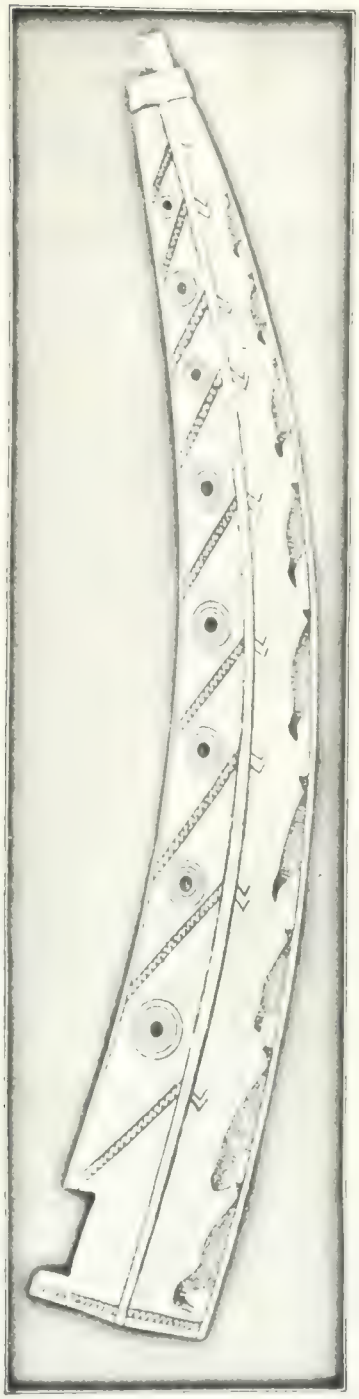
> The coloration of wooden articles with native pigments is of ancient origin, but all the more elaborate instances that have come to my knowledge bore marks of comparatively recent origin. The pigments used were blue carbonates of iron and copper; the green fungus, or peziza, found in decayed birch and alder wood; hæmatite and red chalk; white infusorial or chalky earth; black charcoal, graphite, and micaceous ore of irons.
>
> A species of red was sometimes derived from pine bark or the cambium of ground willow. In later prehistoric burial places, the wooden earrings bear the colors nearly as bright as when first applied.

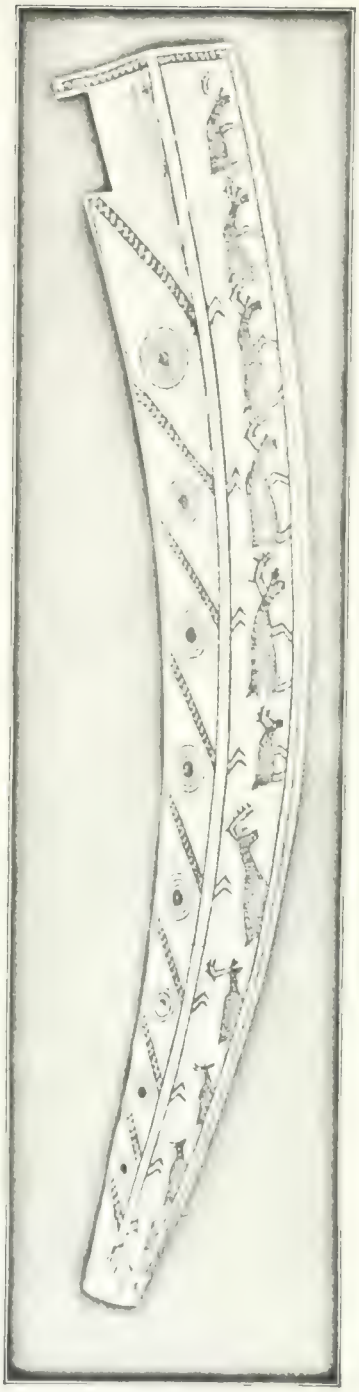
PORTRAYAL OF NATURAL AND OTHER OBJECTS.

In the following illustrations, which represent selected figures from various records, will be noted the several styles of illustrating like species of animals, and the fidelity of expression and outline of some specimens in further illustration of the intimate acquaintance by the aboriginal artist of the subject by which he attempted to portray his skill.

Plate 12 serves to illustrate the form of the Barren-ground caribou or Alaskan reindeer, as well as the horns of the male and female, while in the representation of the form of the walrus similar accuracy is attained, as may be observed by comparing numerous etchings with the illustration on Plate 11, which represents an exceedingly well-formed walrus.

In fig. 9 is presented a herd of reindeer shown in various attitudes, the general execution of the figures being very cleverly done. The heads of some are turned to the front, thus showing decided success in an attempt at foreshortening; some of the animals are lying down, as if resting, while others appear to be browsing.





IVORY PIPE STEM, SHOWING RIGHT AND LEFT SIDES.

The animals composing the herd in fig. 10 are engraved so as to represent them in various attitudes. In No. 1 the animal appears to be coming up, as out of a depression, or water, while in No. 2 the animal is grazing. No. 3 is in the act of lying down, as shown in the bent legs. In No. 4 the animal is lying down, and the head is drawn so as to make it appear as if looking either toward or away from the beholder.

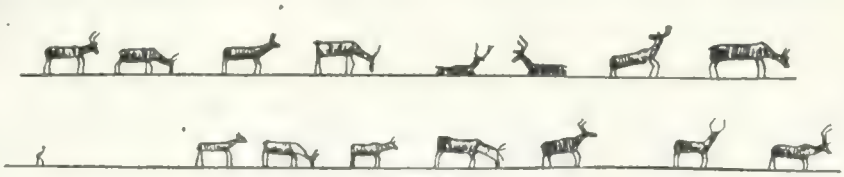


Fig. 9.

HERD OF REINDEER.

Foreshortening is of rare occurrence in primitive art, but besides the preceding instance the animal in No. 6 is also partly portrayed in such an attitude. No. 5 is not definitely depicted, the horns being in such relative position with the body as if the animal's head were turned around as if it were licking its side. No. 7 is a doe, while No. 8 is a male, without any indication of action being shown.



Fig. 10.

HERD OF REINDEER.

In fig. 11 the native artist has certainly expressed an intimate acquaintance with the habits of deer. The attitude of the animal in No. 1 seems one of careless interest, if it may be so designated, in what the rest of his comrades may show more concern. No. 2 is in the attitude of rising from the ground, while that in No. 3 exhibits a desire to move away as if from an enemy. No. 4 is shown, by the position of the legs,



Fig. 11.

HERD OF STARTLED DEER.



Fig. 12.

HERD OF STARTLED DEER.

to exhibit more activity in hastening away. The foreshortening visible in No. 5 seems to place the leader of the herd in the attitude of a protector, being on the defensive, and showing a disinclination to run away from those over whom he may have exercised the privileges or rights of a leader. In this instance, as in the following illustration, very excellent workmanship and artistic taste are exhibited.

In the illustration shown in fig. 12 the deer have congregated

because of an alarm, their heads being directed forward toward the beholder, the foreshortening being admirably executed. Four animals are indicated, three being so closely placed as to make identification rather difficult.

The various attitudes of reindeer portrayed in fig. 13 are readily discernible, the heads and horns aiding in specifically distinguishing the sexes, as also the various degrees of interest manifested at an alarm, caused by the unseen approach of a hunter. The figure at the right end of the illustration shows the native crawling up behind a hillock covered with tall grass and weeds, his hand holding an arrow and bow which he pushes forward before him. Several of the animals are drawn foreshortened, an attempt in art seldom found among the aborigines.

Plate 21, fig. 3, is a drill bow, and is from Kotzebue Sound. The upper or convex side represents a herd of thirteen reindeer in various attitudes of moving forward and grazing. The fourth animal from the left end is drawn with its head very gracefully elevated and looking backward, a fact very unusual in an aboriginal pictograph. The curves are deep and heavy and quite characteristic of the engravings of natives of the region from which the specimen was obtained.



Fig. 13.

HERD OF REINDEER.

This illustration is from the same bow of which the reverse is shown in plate 22, fig. 2.

Plate 21, fig. 6, is also a drill bow from Kotzebue Sound, and is very yellow with age. The figures portrayed denote reindeer. The peculiarity of this record is the depth of the incisions forming the characters, indicating bold, strong work. The under surface of the bow also bears the outlines of reindeer (somewhat larger than those upon the opposite side), which are drawn with great fidelity to specific features, with the exception of the shape of the body. The peculiarities of the horns are carefully noted by the artist, and the various attitudes are exceedingly natural.

Plate 22, fig. 2, represents a drill bow also from Kotzebue Sound, measuring 14 inches in length along the convex surface. The record portrays thirteen reindeer and three animals which may belong to the same species, although because of their shorter necks and stouter bodies identification is uncertain. The herd seems to be moving forward, some of them engaged in browsing, and some attempt appears to be made at perspective. The three short lines at the upper right-hand side of the bow immediately above and in front of the right-hand figures of the deer are the outlines of three otter. All of these

EXPLANATION OF PLATE 21.



Fig. 1. BAG HANDLE.
(Cat. No. 48531, U. S. N. M.)

Fig. 2. DRILL BOW.
(Cat. No. 48521, U. S. N. M.)

Fig. 3. BAG HANDLE.
(Cat. No. 48528, U. S. N. M.)

Fig. 4. BAG HANDLE.
(Cat. No. 48529, U. S. N. M.)

Fig. 5. DRILL BOW.
(Cat. No. 48520, U. S. N. M.)

Fig. 6. BAG HANDLE.
(Cat. No. 48530, U. S. N. M.)

All from Kotzebue Sound. Collected by E. W. Nelson.



CARVED DRILL BOWS AND BAG HANDLES.

EXPLANATION OF PLATE 22.



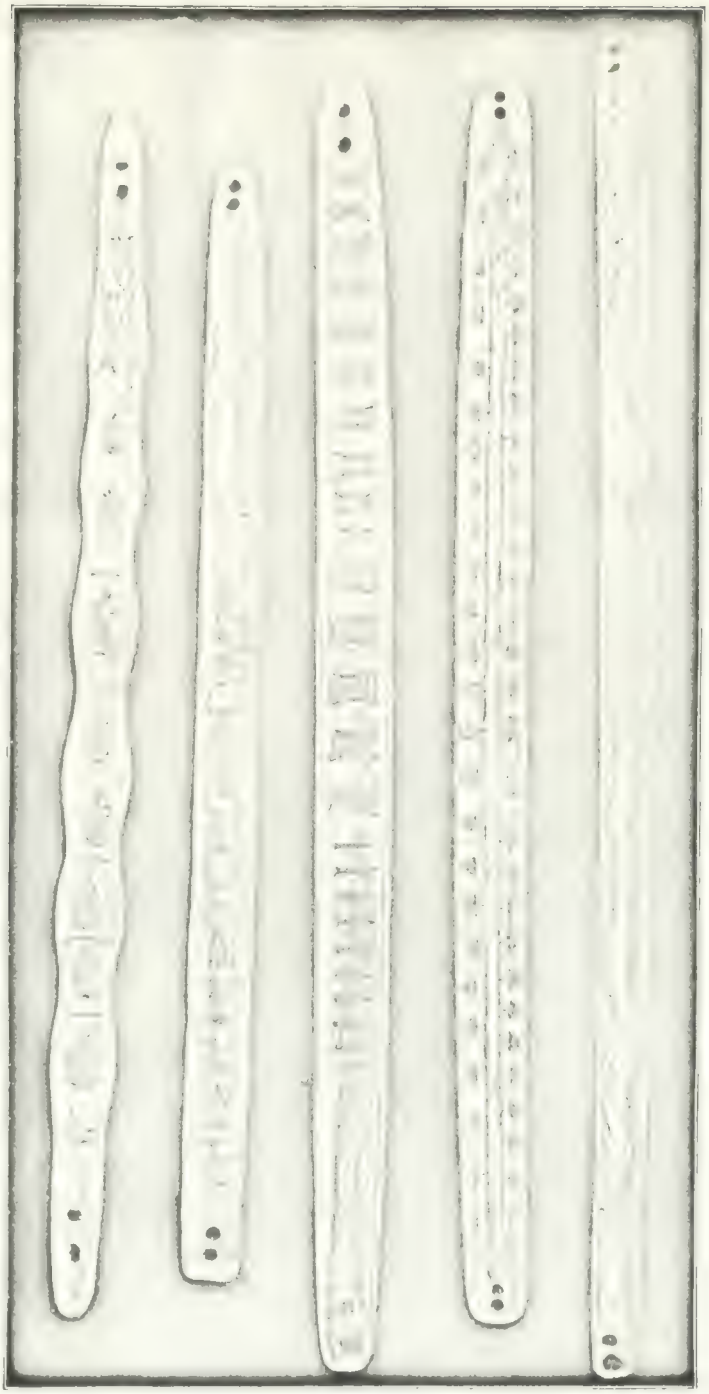
Fig. 1. BAG HANDLE.
(Cat. No. 48531, U. S. N. M.)

Fig. 2. BAG HANDLE.
(Cat. No. 48528, U. S. N. M.)

Fig. 3. DRILL BOW.
(Cat. No. 48525, U. S. N. M.)
All from Kotzebue Sound. Collected by E. W. Nelson

Fig. 4. BAG HANDLE.
(Cat. No. 69424, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 5. DRILL BOW.
(Cat. No. 48521, U. S. N. M. Kotzebue Sound. Collected by E. W. Nelson.)



CARVED DRILL BOWS AND BAG HANDLES.

EXPLANATION OF PLATE 23.

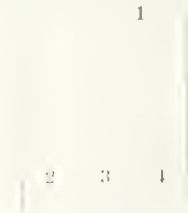


Fig. 1. Reel for sinew for small nets.
(Cat. No. 4[illegible], U. S. N. M. Cape Vancouver. Collected by E. W. Nelson.)

Fig. 2. Bone seine shuttle.
(Cat. No. 44[illegible], U. S. N. M. Cape Nome. Collected by E. W. Nelson.)

Fig. 3. Grass comb of bone.
(Cat. No. 48541, U. S. N. M. Kotzebue Sound. Collected by E. W. Nelson.)

Fig. 4. Fishing implement.
(Cat. No. 38276, U. S. N. M. Lower Yukon. Collected by E. W. Nelson.)



UTENSILS OF BONE AND HORN.

EXPLANATION OF PLATE 24.



Fig. 1. DRILL BOW.
(Cat. No. 44599, U. S. N. M. Cape Darby. Collected by E. W. Nelson.)

Fig. 2. DRILL BOW.
(Cat. No. 28021, U. S. N. M. Sledge Island.)

Fig. 3. DRILL BOW.
(Cat. No. 43931, U. S. N. M. Nubniakhchugaluk. Collected by E. W. Nelson.)

Fig. 4. DRILL BOW.
(Cat. No. 44166, U. S. N. M. Cape Nome. Collected by E. W. Nelson.)

Fig. 5. BODKIN.
(Cat. No. 33176, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 6. BODKIN.
(Cat. No. 33177, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)



CARVED IVORY BOWS AND BODKINS.

EXPLANATION OF PLATE 25.



Fig. 1. IVORY CASKET.
(Cat. No. 24606. St. Michaels. Collected by L. M. Turner.)

Fig. 2. SNUFF BOX.
(Cat. No. 33197, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 3. BOX FOR FUNGUS ASH.
(Cat. No. 48558, U. S. N. M. Kotzebue Sound. Collected by E. W. Nelson.)



BOXES OF BONE AND TUSK.

engravings are characteristic of the crude deeply incised lines of the work accomplished by the Indians of Kotzebue Sound and vicinity.

Plate 23, fig. 2, is a bone seine shuttle from Cape Nome. This is ornamented with several almost indefinite lines at the left, probably representing seals, while the four conspicuous characters represent well-engraved outlines of the reindeer. The shading or marking upon the bodies of the animals is indicative of the markings of color upon the animal, and upon the two middle figures this marking is indicated by delicate vertical lines very artistically rendered.

Plate 24, fig. 4, represents a triangular drill bow obtained at Cape Nome. The specimen measures 13¼ inches in length. The thirteen figures at the left represent walruses, two of them heading toward a kaiak occupied by a single hunter who appears to be chased by a walrus coming from the opposite direction, as if it had been pursued and probably angered by the five hunters shown in the umiak immediately to the right of it. The native in the stern end of this umiak has successfully harpooned a walrus, as is indicated by the delicate zigzag line connecting his hand with the harpoon which is securely embedded in the breast of the animal. Now, turning the bow upside down, there will be seen two walruses being towed along by an umiak occupied by five hunters. Immediately to the left of this umiak is another boat of similar construction which has just been pulled on shore, as the position of the boat indicates, as well as the attitude of the six natives walking along toward the left, each with something in his hands, which has evidently been taken from the boat, and which has been captured or secured on the hunt. The remaining six figures indicate habitations. Again reversing the bow to the original position, opposite to the beached umiak is a walrus which has been captured by the hunters in the umiak proceeding toward the right and toward another walrus which is there shown. The remaining six figures indicate habitations and storehouses, while between the former are shown human figures in various attitudes as if occupied in different tasks. The under sides of the bow bear hunting records, numbers of which will be shown in other connections.



Fig. 14.
FLYING BIRD.

On plate 25, fig. 3, is shown a box for fungus ash. This appears to be made of a piece of bone, is very crude, and bears about the middle a row of five figures, the larger one representing a whale, the next a reindeer, while the three smaller ones appear to be animals of the same species.

Fig. 14 probably denotes one of the water birds, though why it figures on the ivory drill bow without any other characters, in context, it is impossible to say. The attempt at engraving a record may have been abandoned.

The two characters shown in fig. 15, are without doubt deer, as no other species of the family is found in Alaska in which the tangs of the horns project from the posterior ridge of the main branch. In the

elk, which is not found so far north, the tangs project from the anterior ridge, while in the reindeer the horn is specifically bent forward at the middle, and the anterior prong, or "snow shovel," is also usually indicated.



Fig. 16.
REINDEER.

The accompanying illustration of the reindeer, fig. 16, is carefully drawn to indicate the peculiarity of the curved horns. It is rather too short in the limbs in comparison to the size of the body, and although the work is tolerably good, comparison with other illustrations will be found to be of interest.



Fig. 17.
REINDEER.

Fig. 17 is a variant of the proceeding, and much better in both resemblance to the animal it is intended to represent as well as in an artistic point of view.



Fig. 17.
REINDEER.

The accompanying figures illustrate the various typical forms of the same animal as drawn by the natives of various parts of the west coast of Alaska. Fig. 18 represents some etchings from a specimen obtained in Point Barrow, though the style of engraving is not very much like that of those people.

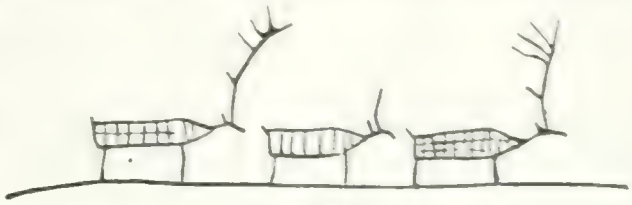


Fig. 18.
REINDEER.

This appears to be one of the few groups in which the horns are so unusually high and in which each animal has but two legs, one at each end of the body.

A specimen of the reindeer shown in fig. 19 is from a fragment of a bone obtained at Norton Sound. Although the interior decoration consists of cross lines, these are diagonal instead of at right angles, as before. A great difference in the art work is visible.

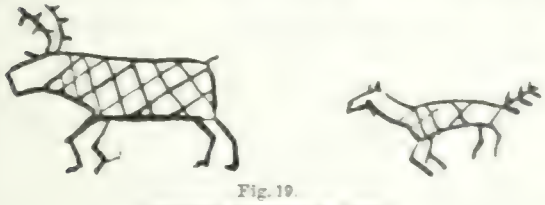


Fig. 19.
REINDEER PURSUED BY WOLF.

The reindeer is followed by a wolf. Two interesting specimens are reproduced from specimen from Kotzebue Sound. The character shown in fig. 20 is heavy in outline, in having a stout body, over which the

EXPLANATION OF PLATE 26.



Fig. 1. SEAL DRAG.
(Cat. No. 129227, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 2. HANDLE FOR KANTAG.
(Cat. No. 36375, U. S. N. M. Lower Yukon. Collected by E. W. Nelson.)

Fig. 3. SEAL DRAG. Made to represent two seal heads, upon the throat being effigy of whale, partly detached.
(Cat. No. 33663, U. S. N. M. St. Michaels Island. Collected by E. W. Nelson.)



SEAL DRAGS AND BAG HANDLE.

the etching extends almost entirely, while in fig. 21 the body of a similar animal from the same locality has but a few cross lines. The horns are very well represented within outline and general curvature.



Fig. 20.
REINDEER, KOTZEBUE SOUND.

An interesting pair of animals is shown in fig. 22, the foreshortening being admirably drawn, while at the same time maintaining the typical specific features which are visible in all other native drawings of the reindeer.

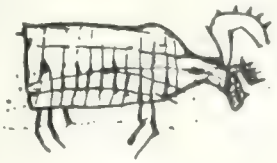


Fig. 21.
REINDEER, KOTZEBUE SOUND.

Plate 26, fig. 1, represents a seal drag from St. Michaels. Upon the upper portion of the ivory utensil are neat outlines of wolves, made with considerable delicacy. The ornamental lines upon which they stand and those encircling the ends of the ornament are a sort of meander or crude zigzag, of which a description is given elsewhere in connection with decoration.



Fig. 22.
REINDEER.

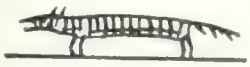


Fig. 23.
WOLF.

Plate 14, fig. 1, represents a fragment of bone from Norton Sound, upon which is a rude etching of a reindeer approaching a wolf, the latter in an inverted position. At the right hand is a perforation, about which is a rude circle ornamented with four radiating lines. Beneath this circle are two parallel curved lines with inner radiating lines, resulting in a very crude meander pattern.



Fig. 24.
PORCUPINE.

The illustration of a wolf (fig. 23) shows the fangs in the partly open mouth, the stiff ears, and long bushy tail. The markings upon the body may be simply in imitation of the etchings found upon most outline or solid figures, though they greatly suggest the brindled fur of the *Canis occidentalis* Dekay.



Fig. 25.
HUMAN FORM.

The porcupine is quite common in some of the southern portions of Alaska, and fig. 24 represents one of these animals, the spines of which are used in decorative work.



Fig. 26.
TWO MEN IN CLOSE EMBRACE.

The engraving seems to have been made with a very sharp tool, as the outlines are groups of thin parallel hair lines.

The selected character reproduced in fig. 25 is so unusual in general form, as found upon ivory or other engravings of the Eskimo, that its presentation here is of interest for purposes of comparison with the pictographs of other peoples, especially the petroglyphs of the western and southwestern, or Pacific Coast States,

embracing the area chiefly occupied by tribes of the Shoshonian linguistic family.

Two figures shown in close embrace, as in fig. 26, may also denote combat, as well as the ceremonial of the shaman, in which the demon causing the illness is shown near the body of the sick person from which it is expelled.

The group of figures of the human form (fig. 27) are selected from a number of engravings on ivory bows, chiefly from southern Alaska.

No. 1 is a form frequently occurring in Kiate'xamut Eskimo pictographs on wood, as when drawn upon slabs of shingle or other smooth



Fig. 27.

VARIENTS OF THE HUMAN FORM.

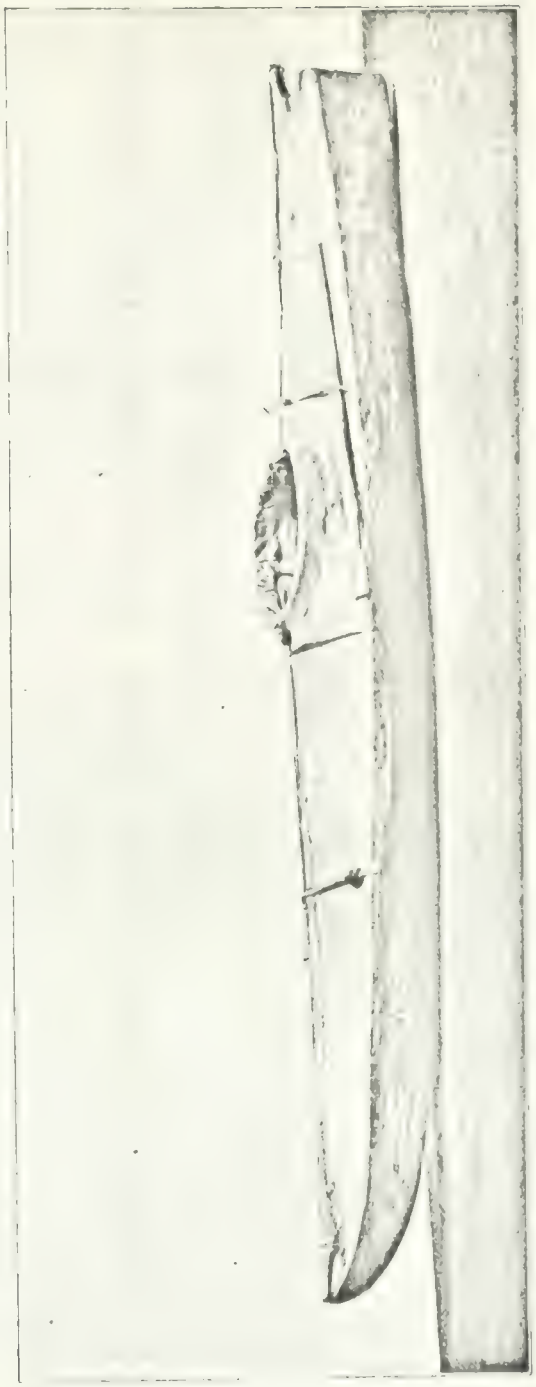
surface to place over the door of the habitation when the owner leaves for any purpose. It is abbreviated, and the result of carelessness or perhaps incompetency of the recorder. No. 2 is another form of man in which only the lower extremities are indicated, while in No. 3 the arms are thrown out horizontally from the body to denote the gesture for negation, nothing. No. 4 is a headless body and does not always denote death, as is the practice among other pictographers, notably so the Ojibwa. No special information was received respecting the character, and it is probable that the head was obliterated by erosion, having originally been drawn. The specimen was copied from an ivory utensil in the collection of the Alaska Commercial Company in San Francisco, California, and was obtained from the Aiqalu'xamut Eskimo.



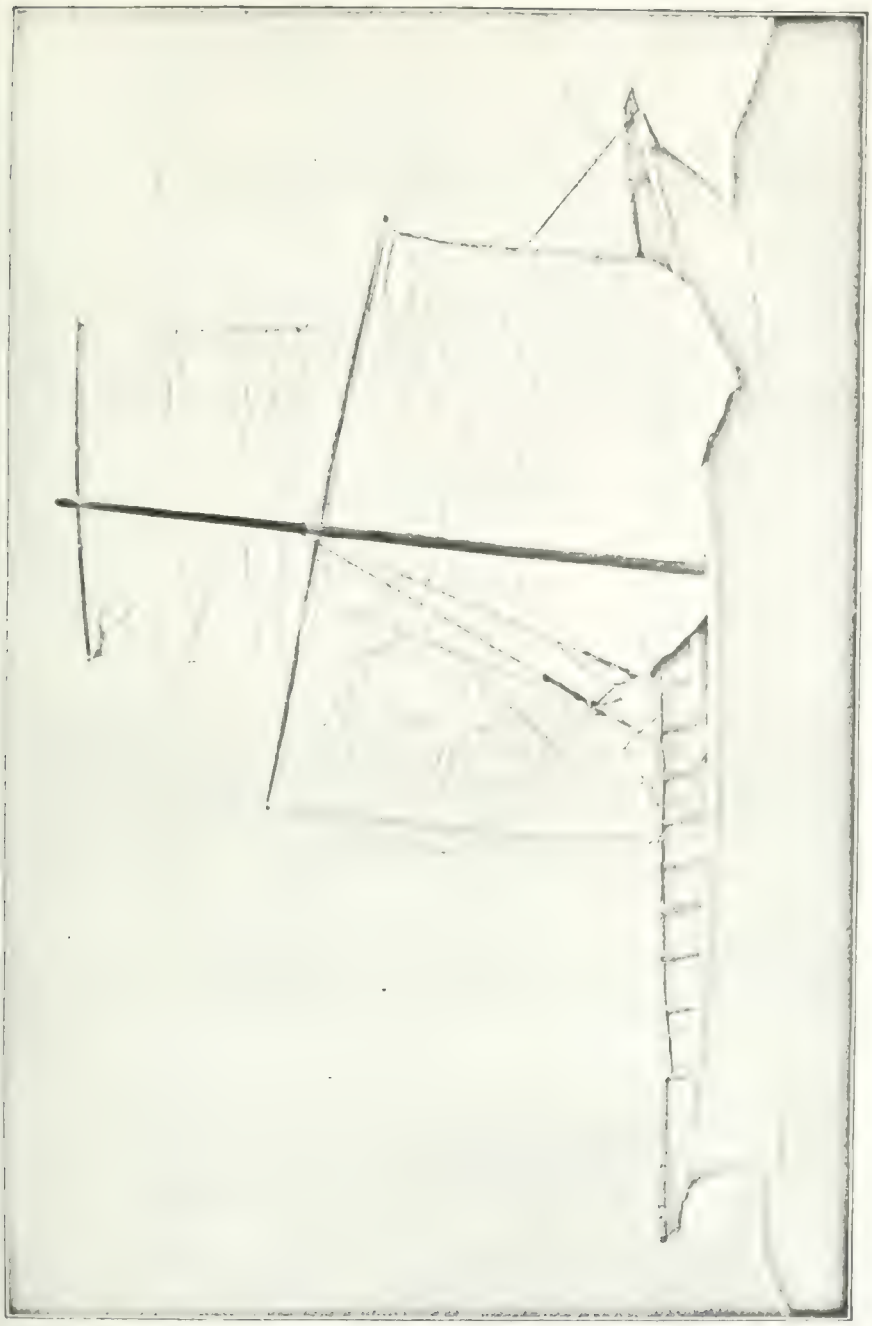
Fig. 28.

VARIOUS FORMS OF VESSELS.

The character in No. 5 denotes a canoe, or kaiak, with two persons within it, while the two paddles project beneath. The right-hand upward stroke of the boat represents the bow of the vessel. Nos. 6 and 7, from Cape Nome, Alaska, are variants of the human form with arms loosely extended, and form in No. 8, having fringe suspended from the sleeves, probably a shaman, and very similar to the Ojibwa designation of the Thunder bird, one of the divinities of the western Algonkian tribes. The figure (No. 8) was copied from an ivory drill bow obtained at Port Clarence, Alaska, by Doctor T. H. Bean, formerly of the United States National Museum.



NATIVE MODEL OF KAIAK. ALASKA.



NATIVE MODEL OF UMIAK. ALASKA.

The portrayal by the native artist of boats, both the kaiak and the umiak, is of such frequent occurrence in the Alaskan etchings and toy carvings that the photographic reproduction of native-made models may be deemed of special interest. Plate 27 represents a kaiak, while the illustration shown in plate 28 represents an umiak with raised sail.



Fig. 29.
WHALING SHIPS NEAR A PINE-COVERED SHORE.

Comparisons with etchings are suggested, as numerous examples of the former occur in abundance, and will be referred to elsewhere and in another connection.

Fig. 28 represents four vessels rigged up with sails, the one at the extreme left being manned by Americans or mixed bloods, distinguished by the presence of hats upon their heads. The hulls of the second, third, and right-hand figures are in imitation of the native made vessel of that size, which is adapted to the erection of masts and small sails.



Fig. 30.
SCHOONER.

The artist has evidently intended to represent the different varieties used by him or his family.

In fig. 29 are represented two vessels, under full sail, within reasonable distance from shore, as is indicated by the presence of two pines which loom up in the middle distance. No special motive appears to have prompted the delineation of the ships, excepting perhaps the record of an unusual event in the history of the locality where it is supposed to have occurred.

The portrayal of a schooner (fig. 30) is perhaps only the result of "having nothing better to do," as loungers often whittle or engrave figures or outlines of such things that create passing interest. It is probable too that something of greater interest may have been connected with the arrival of a vessel from civilization. This, however, could only be cleared up by the artist himself or the person for whom it may have been drawn.



Fig. 31.
STERN-WHEEL STEAMBOAT.

In like manner, the illustration shown in fig. 31 may have been engraved because of some event of consequence connected therewith, or perhaps because of the peculiar appearance in the Alaska waters of a vessel with but one wheel, and that at the stern. Such vessels are common on inland waters of the United States, but their seldom occurrence so far north may have been deemed of sufficient importance of which to make a permanent record.



Fig. 32.
UMIAK.

A crude or unfinished umiak with four occupants is shown in fig. 32. The bodies are not indicated; the heads, arms, and oars being incised. The umiak itself is well drawn, but with mast or rigging erected.

Further reference to vessels, both as to pictographic variants and in relation to conveyance by this means, will be made farther on in connection with conveyance and domestic avocations.

REPRESENTATION BY SYNECDOCHE.

The representation of part of an object to represent the whole, or vice versa, is not so common in the etchings of the Eskimo as in the pictographs of the Indians.

In many instances in the ornamented ivory records, parts of animal or other forms are portrayed in this manner, and such abbreviated characters are subsequently utilized and arranged in such order so as to serve the purpose of simple ornamentation, the primary object or concept having but little if any further connection in its new position.

Mr. L. M. Turner[1] informs me that "the marginal engravures, resembling the tail of a whale, are intended to represent the number of white whales [*Delphinapterus catodon* (Linnæus) Gill.] the owner (or maker) of the ivory article has personally killed or taken in a net.



Fig. 33.

ESKIMO HUNTER AND HERD OF REINDEER.

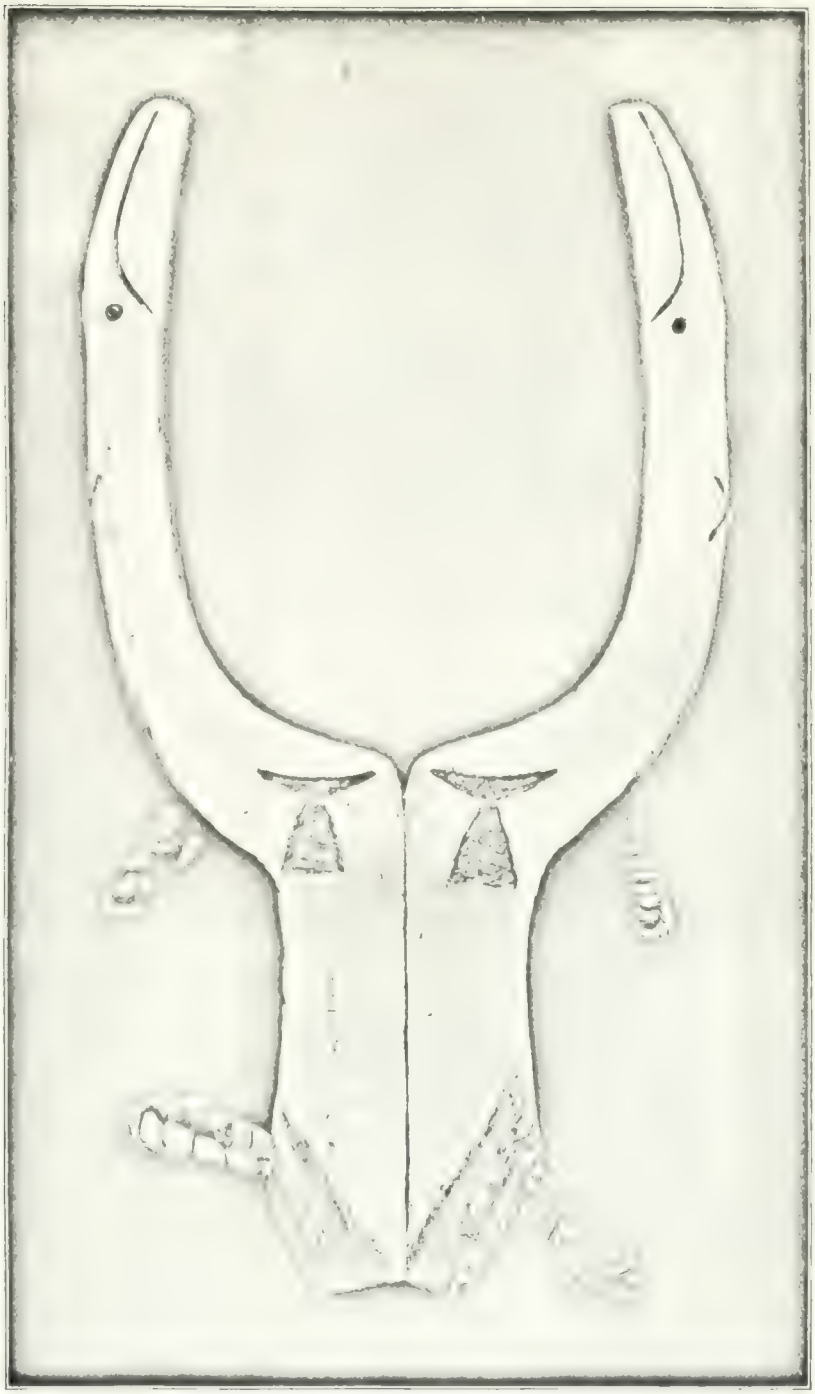
There are, sometimes, partnership pursuits of these whales (as well as other creatures), and by mutual agreement the quarry falls to him who first struck, killed, or otherwise would have secured the whales."

The spears which are portrayed upon some of the engravings of natives in kaiaks are placed so as to be upon a rest, similar to that shown in plate 29, in order that they may be quickly grasped for use. These rests are made of ivory, and in many instances are decorated. The specimen herewith reproduced is from Point Barrow, where it was obtained by Lieutenant P. H. Ray, U. S. A., and by him sent to the National Museum.

The entire length of the specimen is 8¼ inches, the distance across the horns being 4¼ inches, and across the base, just beneath the figures of the whales' tails, 2⅛ inches.

The tails denote the owner to have been a whale hunter. The top of the horns is fashioned in imitation of a whale's head, the long-curved mouth being carefully indicated, while blue beads are inserted to indicate the eyes. Upon the outer edge of each horn, corresponding to the back of the whale, is a cross, in the middle of which is a blue bead. The four loops of thong are for attachment to the boat.

[1] Letter dated February 25, 1895.



SPEAR REST. POINT BARROW.

In the illustration shown in figure 33, the idea of many and much is expressed in the same line of thought or conception as in gesture language. The herd of animals, instead of being indicated by drawing the bodies of those in the foreground singly and complete, and only parts of those beyond being perceivable to the beholder, is represented, with one individual exception, by a single figure of a long body, the thirteen heads being subsequently placed at proper intervals above it, while a certain, though deficient, number of legs and feet are drawn beneath and extending to the ground. These are all drawn as if escaping from the hunter.

At the extreme end of the engraving is the representation of a hunter, armed with bow, and indications of arrows. Parts of the figure have become obliterated by frequent use of the ivory drill bow. The deer next to the hunter does not face in an opposite direction, as if escaping, but is drawn with the head lowered and directed toward him. The attitude has perhaps no special signification, further than that this deer was secured by being shot with an arrow, whereas the remainder of the herd which the hunter saw escaped. Compare also figure of herds in plate 65, fig. 4.

Plate 21, fig. 3, represents the convex side of a drill bow, on the right half of which are thirty transverse figures representing that number of wolf pelts. To the right is one otter skin and the outlines of ten bearskins. As will be observed, these figures are deeply cut and rather conventionalized. The great amount of coloring matter and deep incisions represent the bold, strong work, characteristic of the natives of Kotzebue Sound. The lateral edges are ornamented with parallel longitudinal lines.

The regular order of the outline of pelts and hides is perhaps not only illustrative of the great number of animals killed, but the regularity and repetition of specific parts of the animal's body, and the concavity of the sides of the bears' skins, is a tendency toward conventionalizing. On the whole, the record is a good illustration of synecdoche.

As there will be occasion to refer to another curious subject in pictography—the transmission of special characters, or the utilization of native symbolic characters to serve as substitutes to replace imported or intrusive forms—it may not be amiss to refer in this connection to the interesting result noted in British coins, in which the native Britons copied the obverse and reverse engravings which they found upon the gold stater of Philip of Macedon. The coins were introduced into the country of the littoral tribes through traffic with the Gauls, while the latter obtained possession of them after Greece was plundered by Brennus, B. C. 279.

The reverse of the typical stater bears a charioteer in a biga, the two horses in the attitude of running, while behind is the outline of a wheel, usually elliptical, as the space was not sufficiently large to permit a circle as large as the extreme length of the ellipse to be recorded.

The Britons in adopting the design for their native coins, and being perhaps—I may suggest the word certainly—unacquainted with the form, or use, of the chariot, and the signification of other characters and figures found upon the Greek prototype, reproduced in their successive issues and recoinings variations in these foreign characters, or replaced them by symbols with which they were acquainted and of which they comprehended the signification.

In many of the British coins the horses are reduced to a single animal, though with legs sufficient for two, clearly representing the pair by synecdoche, exactly as our North American Indian does in his records of personal or tribal engagements with the enemy.

Illustrations relating to this peculiarity on the coins named, together with the substitution of native and familiar characters and symbols for those of foreign and unknown types, will be presented farther on.[1]

DECORATION AND ORNAMENTATION.

The importation into Alaska and the adoption by the natives of art designs which are foreign to their own does not appear at all impossible, and the subject is one which would seem to offer an interesting field for investigation with a reasonable hope of interesting developments.

With respect to the probability of the transmission of such art work, Mr. Hadden,[2] whom I have before quoted, remarks:

> As decorated objects must be conveyed by man, the means for their dispersal and the barriers which militate against it are the same as those which operate on human migrations; but there is one difference. Where men go we may assume that they carry their artistic efforts and proclivities with them, but decorated objects may be carried farther than the actual distance covered by the manufacturer, or even than the recognized middleman or trader.
>
> This brings us to a very important subject, and that is the question of trade routes. Trade routes are culture routes; and in order to appreciate the history of culture, it is necessary to know the directions in which it flowed. Until we have a more complete knowledge of the ancient trade routes of Europe, we can not recover the history of the prehistoric Europe.

This subject is now beginning to receive great attention in the Old World, and some highly interesting and valuable facts have been brought to light.

In North America the study of prehistoric trade routes, or culture routes, has thus far received but a limited amount of careful attention; but some instances of curious results of intertribal traffic have been observed. Frequently designs of a specific character, such as may be termed peculiar to a special tribe, are carried to remote localities and there adopted by other tribes of an entirely different linguistic family, whereas the same design or pattern of the former may not produce the slightest apparent effect upon the recognized art designs or ornamenta-

[1] Special attention is called to the work of Doctor John Evans, D. C. L. The Coins of the Ancient Britons, London: 1864–1890. Plates A–N., and I–XXIII, together with figures in text. Map.

[2] Evolution in Art, p. 328.

tion of an adjoining body of people of a like linguistic family and with whom there may be frequent social intercourse. This is accounted for in the instances in mind because of the absence of like materials and resources quite necessary for a faithful imitation of the imported pattern, the original being fully recognized as a cult symbol, and any alteration however slight would immediately provoke the anger of the gods. Therefore, a remote body of people whose cult beliefs are different, and who would perhaps not recognize the sacred or mystic import of a symbol, might readily and without any hesitation adopt such pattern as might suit one's fancy and subsequently alter it to conform to the shape of the material upon which it would be imposed by incision, impressed in color, or otherwise.

The northwest coast of America, between Puget Sound and Kadiak, is an excellent illustration of a culture route, and the arts of the various Selish tribes are traceable over a wide area. The peculiar designs of the Haida, both in sculpture and in tattooing, have been gradually carried northward into the territory of the Thlinkits, the Kadiak, and have been even recently adopted, to a limited extent, by the Aigalu'χamut and Kiate'xamut Eskimo of southern Alaska.

The original patterns of the Eskimo, such as the lines, dots, and herring-bone patterns, do not seem to prevail against the rounded and curved figures and designs of the Haida art. The origin of the latter is peculiar, and the alleged development, if not the introduction and adoption, of the elaborate system of tattooing since about the year 1833, certainly offers an interesting field for critical research.[1]

The Haida patterns, as has been intimated, are very different in both design and concept as compared with the artistic work of the Eskimo. Both are peculiar to the regions in which they flourish, and no resemblance whatever is apparent. The Haida designs originate chiefly in totemic, mythologic, and cult forms, which have, in many instances, become so highly conventionalized as to become difficult of identification. The Eskimo art embraces chiefly an attempt at personal and family records of hunting exploits, with occasional ceremonials portrayed in little more than simple pictorial form, but there is present an exhibition of the progress of recording both gestures and signals, to aid in the explanation of the record, as well as frequent attempts at the record of subjective ideas, a system of pictography foreign to that of the Haida, and more nearly approaching the petroglyphs of various tribes belonging to the Shoshonian linguistic family, conspicuous among which are some of the pueblos of New Mexico and Arizona; and the sculpturings found in Owens Valley, California, the authors of which are unknown but are believed to have been members of the same family, both because of the typical resemblance of many of the patterns and the geographic location of the sculptured bowlders.

[1] See remarks on "Aboriginal Art in California and Queen Charlotte's Island," W. J. Hoffman, in Proceedings Davenport Academy of Sciences, IV, 1885.

Another trade route of importance in this connection is that afforded by the waters of the Yukon River. Eskimo patterns have been carried up into the country of the Kenai Indians, a tribe usually designated in the northwest as the Tenanah, and of the same linguistic relationship as the Apache, the Navajo, and among many others the Hupa Indians of California. These designs are made up of straight lines, dots, and nucleated circles, and occur upon strips of bone with perforations at one end, and used, it is presumed, as necklace ornaments. Similar ornaments are found also among the Thlinkit, of which illustrations are given on plate 9.

In the National Museum is an interesting relic made of horn, used as a cylindrical box for dentalium shell money, upon which are incised and blackened lines so arranged between two parallel longitudinal lines that the original white surface of the specimen is a serrated figure and not the ordinary zigzag, plate 30. Although the resemblance of this to some of the zigzag and meander patterns of the Eskimo is very striking, no connection can be apparently traced between the two peoples, even along the supposed course of migration of the Hupa toward the coast at the time of the separations of the Apache or Athabascan tribes, vivid traditions of which still obtain among the Apaches, and linguistic evidence of which is complete.

A well-known trade or culture route—in fact, one of the earliest to influence the crude arts of the Eskimo—was by way of the Diomede Islands, when the natives came in contact with the Cossack outposts in eastern Siberia.[1]

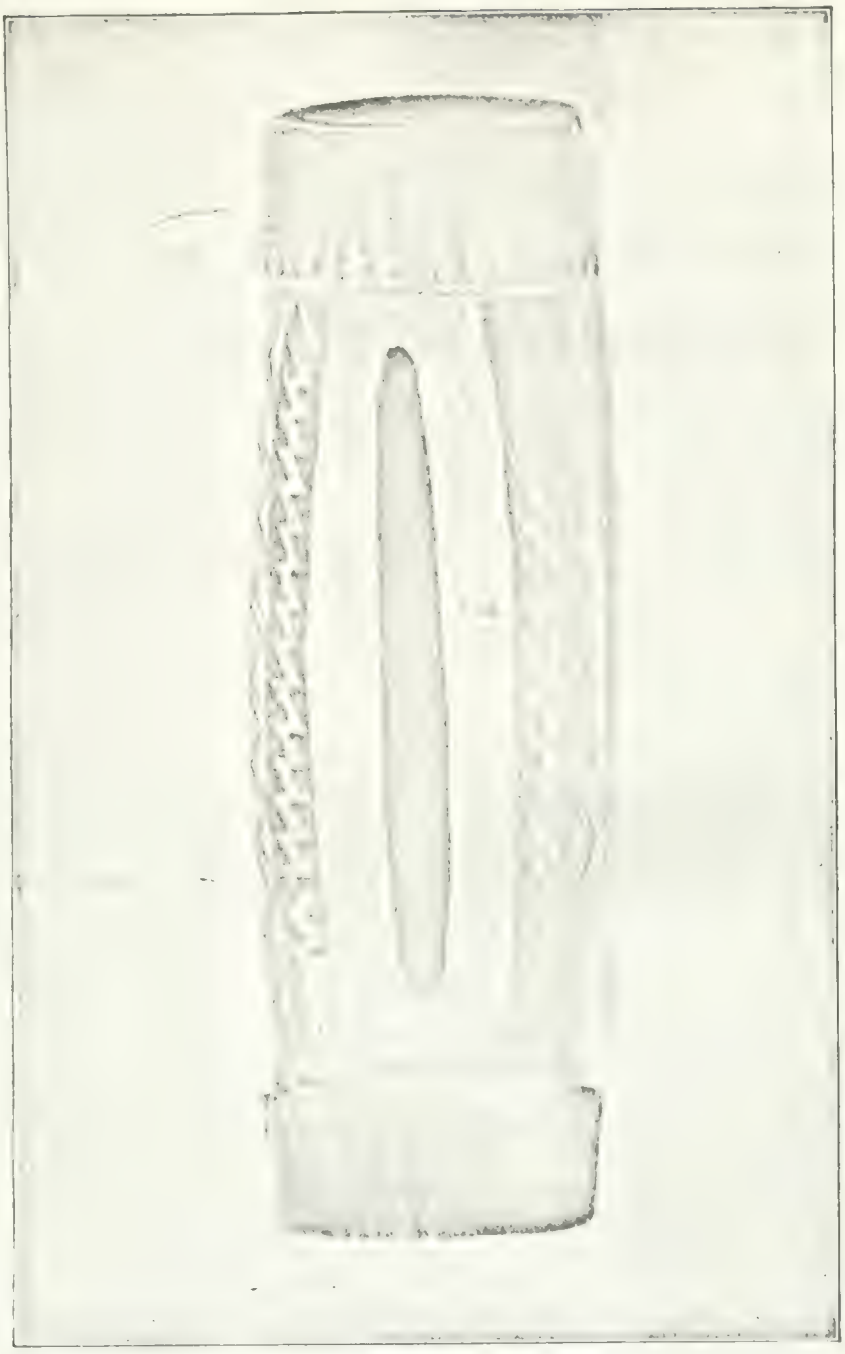
The traffic which naturally resulted brought among the American natives various articles of Russian manufacture, among which, no doubt, were ikons and other Christian and ecclesiastical objects and prints, articles which are usually found to be highly decorated in both design and color. Such objects would most naturally tend to influence the simple art of a people who were naturally given to the ornamentation of various utensils and weapons, as also of articles of clothing.

Through this channel were obtained, so Mr. Murdoch informs me, the Siberian pipes and seal nets, which, together with the native labret, have extended eastward of Point Barrow to Cape Bathurst, beyond which locality, it is believed, neither are found. This blank area between Cape Bathurst and the delta of the Mackenzie forms a barrier, or line of demarcation, beyond which the several bodies of Eskimo are artistically distinct from one another. In other words, the three objects named as common to the Alaskan Eskimo are totally absent east of the locality indicated, as found by Mr. Murdoch during his residence at the Point.

Mr. Haddon[2] remarks that although decorated objects pass along

[1] "There is good reason to believe that the Malayans, the Dutch of Asia, crossed the Pacific Ocean in the pursuit of commerce." Dwight. Travels in New England and New York. New Haven, 1821. I, p. 129.

[2] Evolution in Art, p. 330.



BONE BOX FOR SHELL MONEY. HÛPA INDIANS.

trade routes "and are distributed far and wide, it does not always necessarily follow that the ornamentation itself is naturalized. It is possible that in many cases a certain style of decoration is associated with a particular kind of object, and it might not occur to people to transfer that decorative style to other objects, or at all events the process would doubtless be slow."

An interesting example of bone dress ornaments, bearing simple decorations and common to both the eastern Eskimo and the Nascopi, as well as the now extinct Beothuk Indians of Newfoundland, was brought to my attention by Professor O. T. Mason, Curator of Ethnology in the National Museum.

The specimens are reproduced in colored and plain sketches, and presented to the National Museum by Lady Blake, of the Government House, St. Johns, Newfoundland.

The illustrations represent the primitive bone ornaments worn about the bottom of dresses prior to the use of metal substitutes, such as are now attainable from the whites. These ornaments are chiefly of a class which represent an inverted narrow letter V—thus, ∧—each about 2 or 2½ inches in length and decorated with various angular designs. Some of them have marginal incised lines, within which and attached thereto are the base of triangular or serrated markings similar to some Eskimo patterns, shown in various illustrations.

Upon the ends of some other small horn ornaments are similar rude zigzag patterns, as shown in other illustrations of Eskimo workmanship.

The information is obtainable as to the conceptions which gave rise to the art patterns of the Beothuk. The simple zigzag may have resulted from an incised imitation of some notched ornaments made by Nascopi, ornaments such as the Beothuk were undoubtedly familiar with, as both varieties are shown upon the same plates of illustrations made by Lady Blake. By laying the Nascopi ornament upon the slab of horn used by the Beothuk, the incised serrations forming the border almost exactly fit to the zigzag or serrated ornamentation forming a border near the edge of the piece used by the latter.

Several patterns occur in Eskimo decorations, however, which, while not exactly resembling patterns from other parts of the world, appear to have originated with them, and were suggested to them by original products or mechanical contrivances, as the Siberian kantag or wooden buckets, in nests of several sizes, and the peculiar fish trap or run placed in narrow channels of water, and perhaps the guides to the pitfall. To the latter class of ornamentation may be placed the "seal-tooth" pattern. These two different types of objects may have suggested the motive for the figure of concentric circles and the rude zigzag, respectively; or the introduction from without the territory of the Eskimo of these designs—the former, for instance, through the influence of the Russians, and the other, perhaps, from the vicinity of

Torres Straits and adjacent territory—may have been seized upon as suggesting the outlines or concepts perceived in the native products, the possible difference in artistic results being dependent upon the difference in material upon which the designs are portrayed and to the expertness or lack of skill of the Eskimo copyist or artist.

Upon a careful examination of all available materials bearing pictorial records or only simple decorative designs, several interesting facts appear.

First. That the Eskimo east of Point Barrow, including those even of Labrador and Greenland, exhibit but little artistic expression, this being confined chiefly to lines, dots, and other similar rudimentary markings which are employed almost wholly for decorative purposes. This does not refer to various kinds of carvings and outlined flat figures in bone or ivory, which are intended to be stitched to clothing, a custom very much resembling a like practice which obtains in Finland. Neither does this refer to the custom of stamping designs upon cloth or buckskin, a practice apparently learned from the several Algonkian tribes with which some of the Hudson Bay and Labrador tribes of Eskimo come in contact.

Second. That the Point Barrow natives are apparently but moderately advanced in the art of recording tribal or individual events, customs, etc., and that most of their ivory utensils are not decorated; but that where attempts at beautifying are apparent, only those designs are adopted which suggest or require the least amount of manual exertion and artistic ability, so that straight incisions, creases, or grooves are most numerous, while nucleated circles, and rarely also a few concentric rings, are incised, the latter apparently by means of the common carpenter's auger bit, properly filed at the cutting edge so as to produce a scratch instead of an incision, the latter being too delicate and tedious a process for success in removing the dense resisting particles of ivory.

Third. That the engravings on ivory and bone from the northern portion of the west coast of Alaska, embracing the region about Kotzebue Sound and northward, and including Diomede Islands and the opposing coast, as well as the area occupied by the Asiatic Eskimo, are more deeply and crudely cut, as indicated by the lines being broader and bolder than in the products from any other area.

Fourth. That the general results in graphic portrayals are more artistic among the natives of Bristol Bay and Norton Sound, and improve in delicacy of engraving toward the southward even to and including the Aleutian Islands; that the portrayal of animal forms is accomplished with such fidelity as to permit of specific identification; that the attempt at reproducing graphically common gesture signs becomes more frequent, and various instances of the successful portrayal of subjective ideas also occur.

In his reference to the Agulmuts, whose location extends from near

EXPLANATION OF PLATE 31.



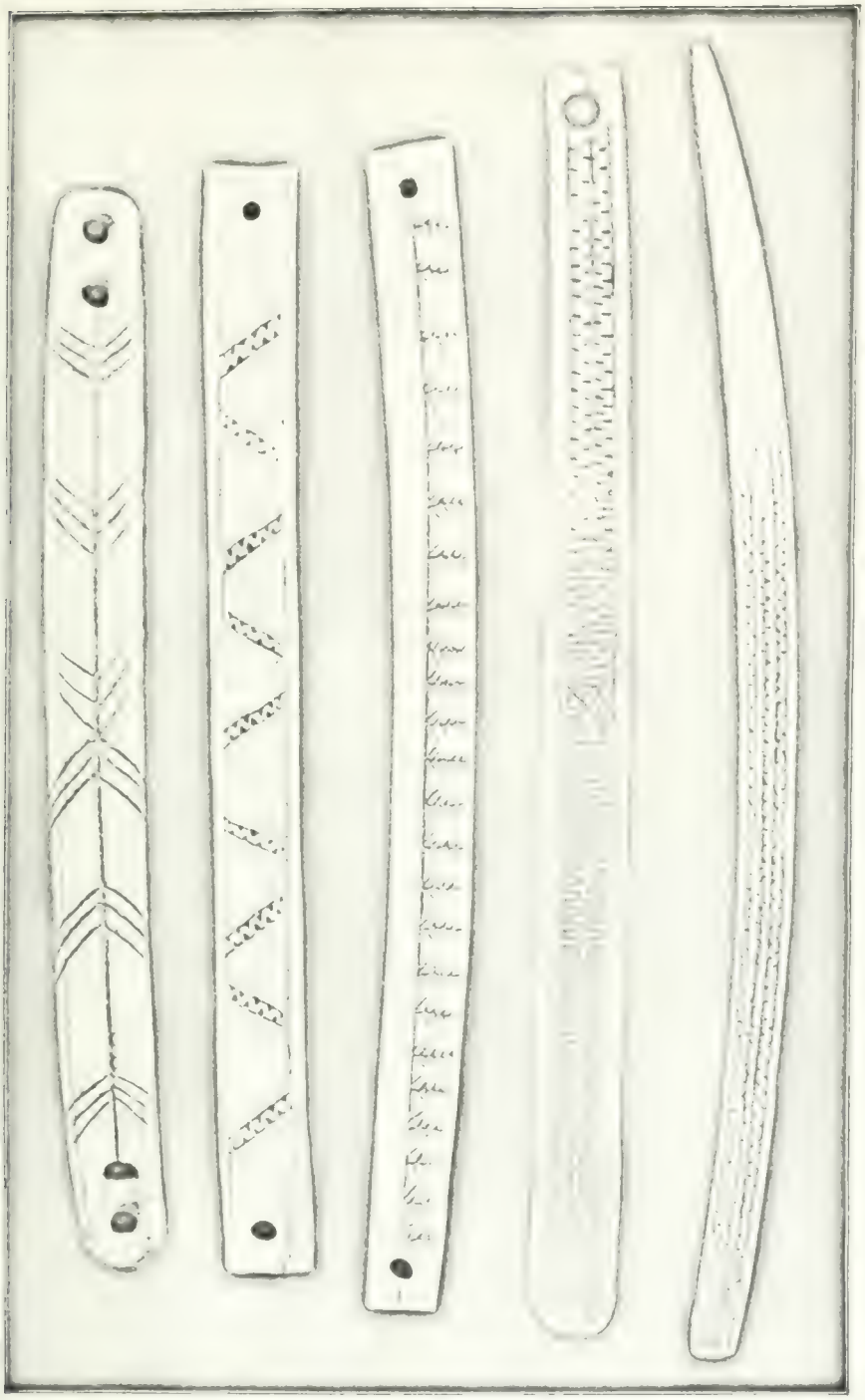
Fig. 1. BAG HANDLE.
(Cat. No. 38752, U. S. N. M.)

Fig. 2. BAG HANDLE. FISH-TRAP OR SEAL-TOOTH PATTERN.
(Cat. No. 24412, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 3. BAG HANDLE. PINE-TREE PATTERN.
(Cat. No. 24417, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 4. BAG HANDLE. VARIANT OF FIG. 2.
(Cat. No. 38776, U. S. N. M. North of Norton Sound. Collected by E. W. Nelson.)

Fig. 5. BODKIN. PARALLEL ROWS OF SEAL-TOOTH PATTERN.
(Cat. No. [?]. Norton Sound. Collected by E. W. Nelson.)



HANDLES BEARING PRIMARY FORMS OF DECORATIONS.

EXPLANATION OF PLATE 32.

1	2	3
4	5	6
	7	

Fig. 1. Ivory Ear Pendants; Made of Beluga Teeth.
(Cat. No. 33191, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 2. Buckle; Girls' Hair Ornament.
(Cat. No. 37097 U. S. N. M. Agaiyukchugumut. Collected by E. W. Nelson.)

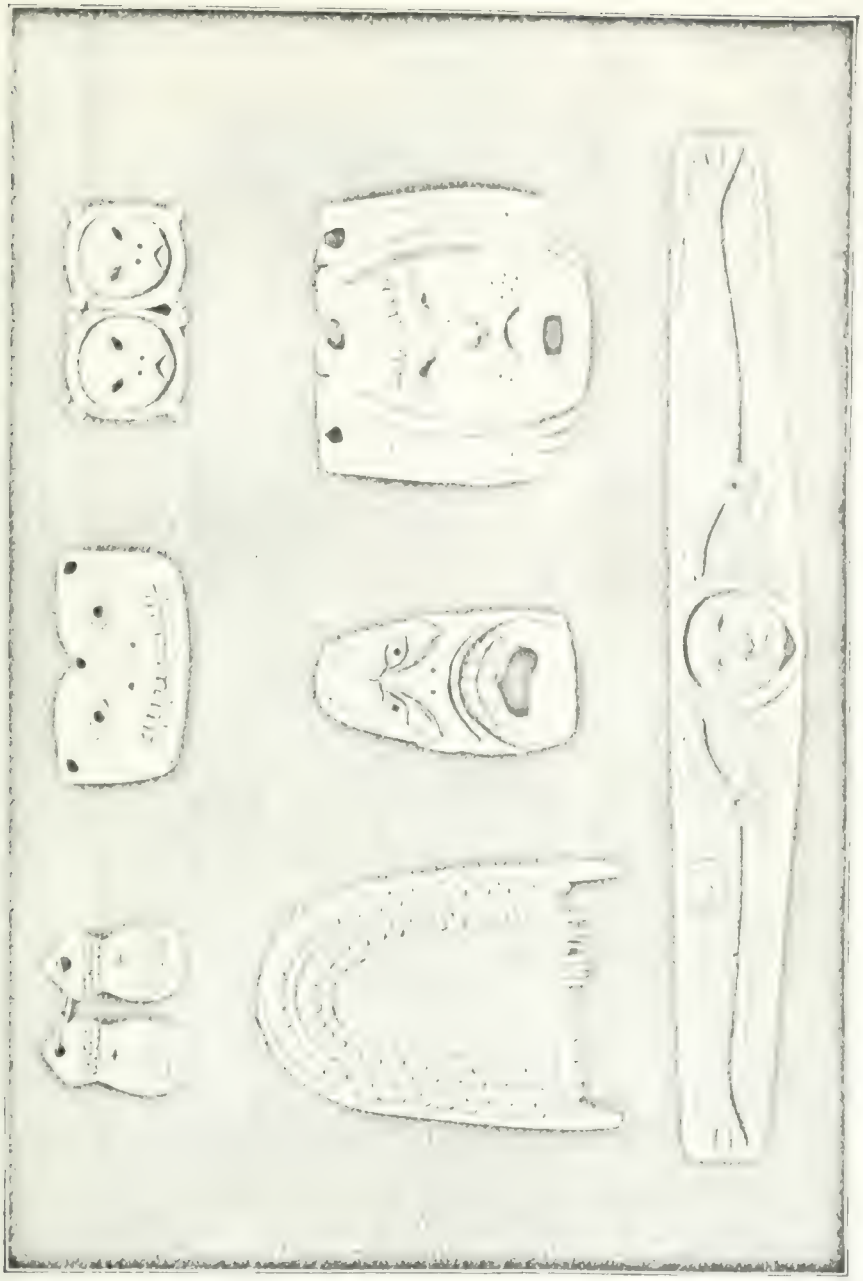
Fig. 3. Ear Pendants; Representing Seal Heads.
(Cat. No. 38052, U. S. N. M. Spugunugumut. Collected by E. W. Nelson.)

Fig. 4. Comb.
(Cat. No. 48174, U. S. N. M. Cape Prince of Wales. Collected by E. W. Nelson.)

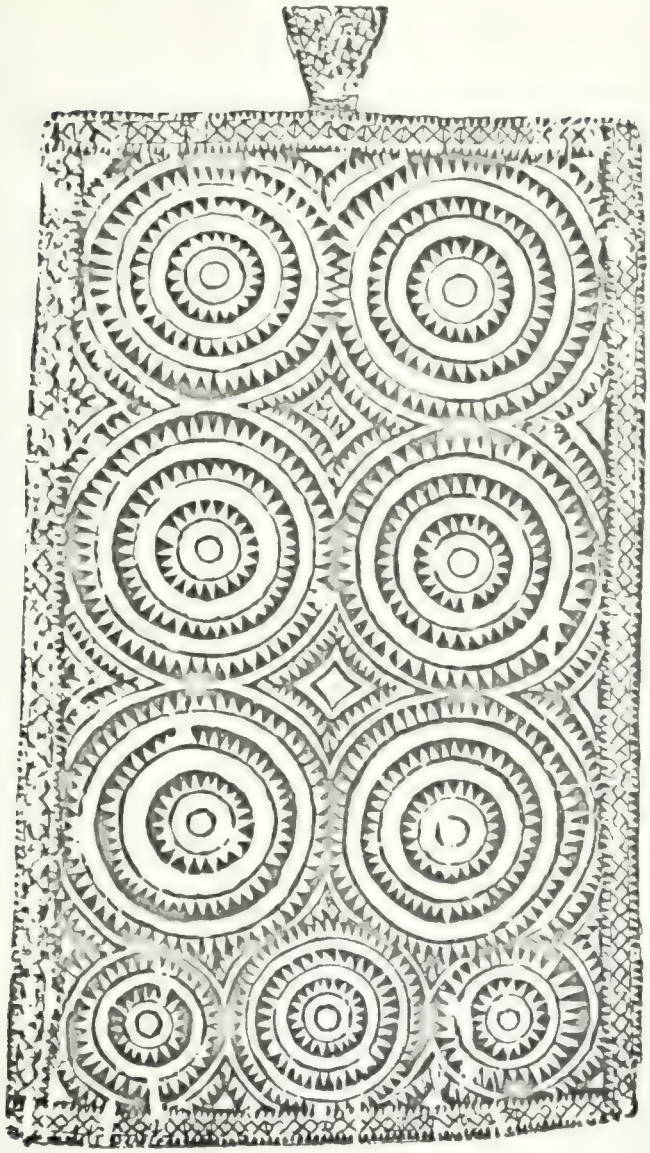
Fig. 5. Utensil of Ivory. Thlingit Indians (?).

Fig. 6. Ivory Ornament Carved to Represent Face of a Seal.
(Cat. No. 37763, U. S. N. M. Kongiqunogumut. Collected by E. W. Nelson.)

Fig. 7. Carved Handle, Showing Human Faces with Tattooing.
(Cat. No. 37319, U. S. N. M. Chalitmut. Collected by E. W. Nelson.)



DECORATED OPNAMENTS.



WOODEN TABLET. PAPUAN ORNAMENTATION.

Cape Avinoff nearly to Cape Romanzoff, Mr. Dall[1] remarks that they have been reported as remarkable for the beauty of their workmanship in ivory. "A kantag or wooden dish," he continues, "which was obtained at Núnivak by Captain Smith, was neatly carved and inlaid with lozenges of white stone resembling gypsum. They were labrets of the same material. Their food was principally fish and seal, and they appeared to be very destitute of iron and other articles introduced by traders. Their ivory weapons were of great beauty, and some specimens of hollow carving would tax the resources of the most skillful civilized workman to equal."

In addition to the above named facts there occur other peculiar patterns, two of which are of interest; they are respectively the figures of concentric circles, and a Papuan-like zigzag design, to which reference has already been made. The former is frequently a nucleated circle, frequently regularly incised series of circles one beyond the other, and occasional instances in which delicate radiating lines are attached to the outer ring.

The other pattern is like, and yet unlike, that found in Papuan decorations, in which is a rude wavy or meander zigzag, or even more sharply defined interdigital lines, or perhaps even triangular projections so as to form true serrations, resulting in what is sometimes termed a tooth pattern.

This particular form of Papuan art is usually drawn between or within parallel lines, and extends transversely across the specimen decorated. The Eskimo resemblances, if they may be so termed, are represented on plate 31, figs. 2, 4, and 5.

Plate 32, fig. 4, represents an Eskimo comb, the curves upon which form an interesting example for comparison with the Papuan designs upon a tablet of wood, referred to and illustrated by Mr. Stolpe, of Stockholm.[2] Plate 33.

Similar parallel lines carrying between them the same style of a rude zigzag, but in relief, because the alternate triangular spaces have been removed by cutting, occur upon various other specimens represented in various plates and illustrations.

The short transverse bars in this type of pattern represent in some instances, according to an Alaskan informant and pictographer, Vladimir Naomoff, conventionalized fish traps, such as are placed in narrow channels of water for catching the migrating salmon. A symmetrical trap of such construction is shown on the faces of a pipe in plate 60. The transverse lines or bars are complete in this illustration, however, yet the decorative or evolved figure is easily traceable to the original. A simpler form of the same pattern appears in the decoration on fig. 4 in plate 31, where the alternate short lines project inward toward the opposing space between the short lines.

[1] "Alaska and its Resources," Boston, 1870, p. 406.

[2] Stolpe, Utveklingsföreteelser i naturfolkens ornamentik. Ymer, Stockholm, 1890, 4°, pp. 193–225; 1891, pp. 197–229, figs.

The native drawings of the so-called fish trap or seal tooth pattern also resemble the approaches to the game trap or inclosure, both these contrivances being represented by horizontal or oblique or perhaps even only parallel lines, leading to a trap or inclosure, along which lines are short etchings or bars to denote the posts or divisions to sustain the brush of the game drive or the wickerwork partitions of the fish trap. These short lateral lines simulate the drawings made to denote the separations or spaces between teeth like those of the seal, of which examples are given in fig. 00, and, as was suggested by a native Eskimo, the open mouth of the hunting seal was like the open fish trap and game drive, ready to take in such prey as came within reach. The conception of the design may be found in the trap, as suggested by Naomoff, or in the "seal's mouth," as suggested by Nomikséner, a Kaviagmut Eskimo from Port Clarence, whose portrait is shown in plate 2.

These drawings in ivory are usually placed between horizontal or parallel lines, interesting because they resemble the chief characteristics of Celtic art, of which there is no relationship directly except as showing the like workings of man's mind under like conditions. "The Japanese, for instance," says a writer in Archæologia Cambrensis,[1] "ignore the margin altogether and make their decoration entirely independent of it, but in Celtic art the patterns are all designed to suit the shape of the margin." This is true of much of the Alaskan art.

The early contact by the Alaskans with art products from the South Pacific is believed to be pretty generally recognized; and an instance of the discovery among the natives of Bristol Bay of the cocoanut suggested an admirable material for engraving which was only surpassed in beauty and texture by walrus ivory. Various curios have also been carried north by sailors, the carvings upon which have suggested, no doubt, possibilities in engraving of which the Eskimo had previously had no conception. Illustrated newspapers are seized with avidity, and reproductions of various cuts attempted, in some known instances the features of faces being fairly truthful likenesses.

Much of the art of the Eskimo has been influenced, too, by the introduction of articles of Russian manufacture, of which more is remarked elsewhere. Two fairly good examples of native workmanship of this are given on plate 34, figs. 1 and 2, and representing wooden boxes with native ornamentation and Russian symbols of the cross and other motifs.

The suggestion for engraving concentric circles being accounted for as to origin and signification by Mr. L. M. Turner, and described farther on, may also have been introduced through the medium of sailors and others from the Gulf of Papua, where, according to Mr. Haddon, they are conventionalized eyes in the ornamental faces carved on wooden belts.

[1] January, 1893. Fifth ser., pp. 20, 21.

EXPLANATION OF PLATE 34.



Fig. 1. WOODEN BOX.
(Cat. No. 44457, U. S. N. M. Cape Nome. Collected by E. W. Nelson.)

Fig. 2. WOODEN BOX.
(Cat. No. 33077, U. S. N. M. Cape Nome. Collected by E. W. Nelson.)

Fig. 3. BOX FOR FISHING TACKLE.
(Cat. No. 24352, U. S. N. M. Norton Sound. Collected by L. M. Turner.)



WOODEN BOXES, AND CASE FOR FISHING TACKLE.

In Alaska, however, concentric circles and nucleated rings have been utilized to explain concepts other than the similar patterns which occur elsewhere in the world, referring to other widely distinct origins and concepts. (Compare with variants on plate 17.)

The concentric rings, being so generally widespread, survive in the Kongo region and in Tangier, where the design may owe its origin to the introduction of Mohammedanism and the Byzantine style of ornamentation; upon Roman lamps in the ruined church of St. Louis, in Carthage; and in numerous localities throughout northern Europe as rock sculpturings, and in bronze and other jewelry and ornaments. America has many petroglyphs in which this design is found, the greatest number being upon the basalt rocks in the arid desert south of Benton, Owens Valley, California.

By these references to the occurrence in widely separated localities of like designs, I do not for a single moment desire to convey the impression that the belief is entertained that this is the result of migration through the ordinary trade, or culture channels, as Mr. Haddon designates them, but rather of independent development, being evolved from very diverse originals and concepts. It is certain, nevertheless, that in some instances religious symbols are carried among peoples to whom they are artistically or technically foreign, and to whom the signification would be meaningless but for the explanation accompanying them.

In Alaska several different versions are given to account for the origin of the nucleated circles, plain concentric rings, and rings with dentations. Reference to like forms in other regions is made elsewhere.

Mr. Haddon[1] remarks with reference to such figures that "there is a great tendency for spirals to degenerate into concentric circles; examples could be given from New Guinea, America, Europe, and elsewhere. In fact, one usually finds the two figures associated together, and the sequence is one of decadence, never the evolution of spirals from circles. The intermediate stage has been aptly termed a 'bastard spiral' by Doctor Montelius—'that is to say, concentric circles to which the recurved junction lines give, to a casual glance, the appearance of true spirals.'"

Interesting instances in support of Mr. Haddon's statement are found in the development of decorative designs among various tribes of Indians, in which the textile designs were ultimately imitated in a free hand style, thus gradually converting the angular into curved figures, as in the meander patterns so common in the basketry and pottery designs of the several pueblo tribes.

In northern Europe and elsewhere in the Old World coils of withes, cords, and other textile strands were imitated in metal, as may be seen in many of the prehistoric relics of Scandinavia and France.

Associated with these patterns are series of figures consisting of

[1] "Evolution in Art," p. 93.

concentric rings, which no doubt owe their origin to the vegetal prototype.

Thus far no spirals have been observed in the native art designs of the Eskimo as illustrated in the National Museum, and one reason for the absence of spirals may be attributed to the difficulty of engraving the ivory satisfactorily, or perhaps to the absence of particular life forms which might under other circumstances suggest such motifs. The general shape of the spaces upon drill bows, being long and narrow, would otherwise naturally suggest either a meander or a continuous series of squids as a most appropriate and convenient pattern. Instead of these, however, the ornamental "filling-in" consists of straight lines of various lengths and at various angles, together with animal or bird forms in various stages of abbreviation through conventionalization.

DECORATION CONSISTING CHIEFLY OF LINES, DOTS, AND ZIGZAGS.

The older forms of ornamentation, as already indicated, seem to consist of straight lines, dots, and <-shaped incisions, while the apparently later ones are the circles, made by metal instruments possibly of native workmanship, and the rude zigzag or meander. The application of these several types of designs to the ornamentation of various articles of use is represented in the next few pages. Some interesting examples of figure carving, bearing engravings of various types, are also reproduced.

While the rude zigzag pattern is frequently alluded to as the "fish trap" pattern—the name being deemed appropriate because the type originated in that contrivance, according to Naomoff—the designation "seal tooth" pattern might be equally appropriate, as the arrangement of the teeth and spaces between them may have suggested the pattern among tribes in other parts of the Eskimo territory.

Plate 35, fig. 8, shows a woman's skin scraper, from Cape Darby. The specimen appears to be made of fossil ivory and is carved in imitation of a whale's tail, and rounded so as to fit the palm of the hand. The front end has a deep incision, in which was placed at one time a flint scraper, in imitation of other examples in the collection of the National Museum. The specimen bears beneath a depression, showing it to have been used for holding the top of a drill. The ornamentation on both sides and transversely at the rear portion consists of a single line to which are attached irregular short radiating or transverse lines in imitation of the rudest type of the "fish trap" pattern. This ornamentation is in accordance with the typical ornamentation of the Eskimo, such as comes from the shell heaps of the Aleutian Islands, across to the east coast of Greenland, and antedating very likely the historic period.

In plate 31, fig. 5, is shown an ivory bodkin, here reproduced as of interest in presenting upon the one side five parallel lines of unequal

EXPLANATION OF PLATE 35.



Fig. 1. THIMBLE GUARD.
(Cat. No 43459, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 2. THIMBLE HOLDER.
(Cat. No 29731, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 3. THIMBLE HOLDER.
(Cat. No 129314, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 4. SEINE THIMBLE HOLDER.
(Cat. 36452, U. S. N. M. Kushunuk Collected by E. W. Nelson.)

Fig. 5. MOUTHPIECE.
(Cat. No 63667, U. S. N. M. Diomede Islands. Collected by E. W. Nelson.)

Fig. 6. THIMBLE GUARD.
(Cat. No. 43861, U. S. N. M. Unaliklut. Collected by E. W. Nelson.)

Fig. 7. MOUTHPIECE.
(Cat. No. 63666, U. S. N. M. Diomede Islands. Collected by E. W. Nelson.)

Fig. 8. HANDLE OF SCRAPER.
(Cat. No. 44180, U. S. N. M. Cape Darby. Collected by E. W. Nelson.)

Fig. 9. TOBACCO BOX.
(Cat. No. 44766, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)



DECORATED UTENSILS USED BY WOMEN.

EXPLANATION OF PLATE 36.

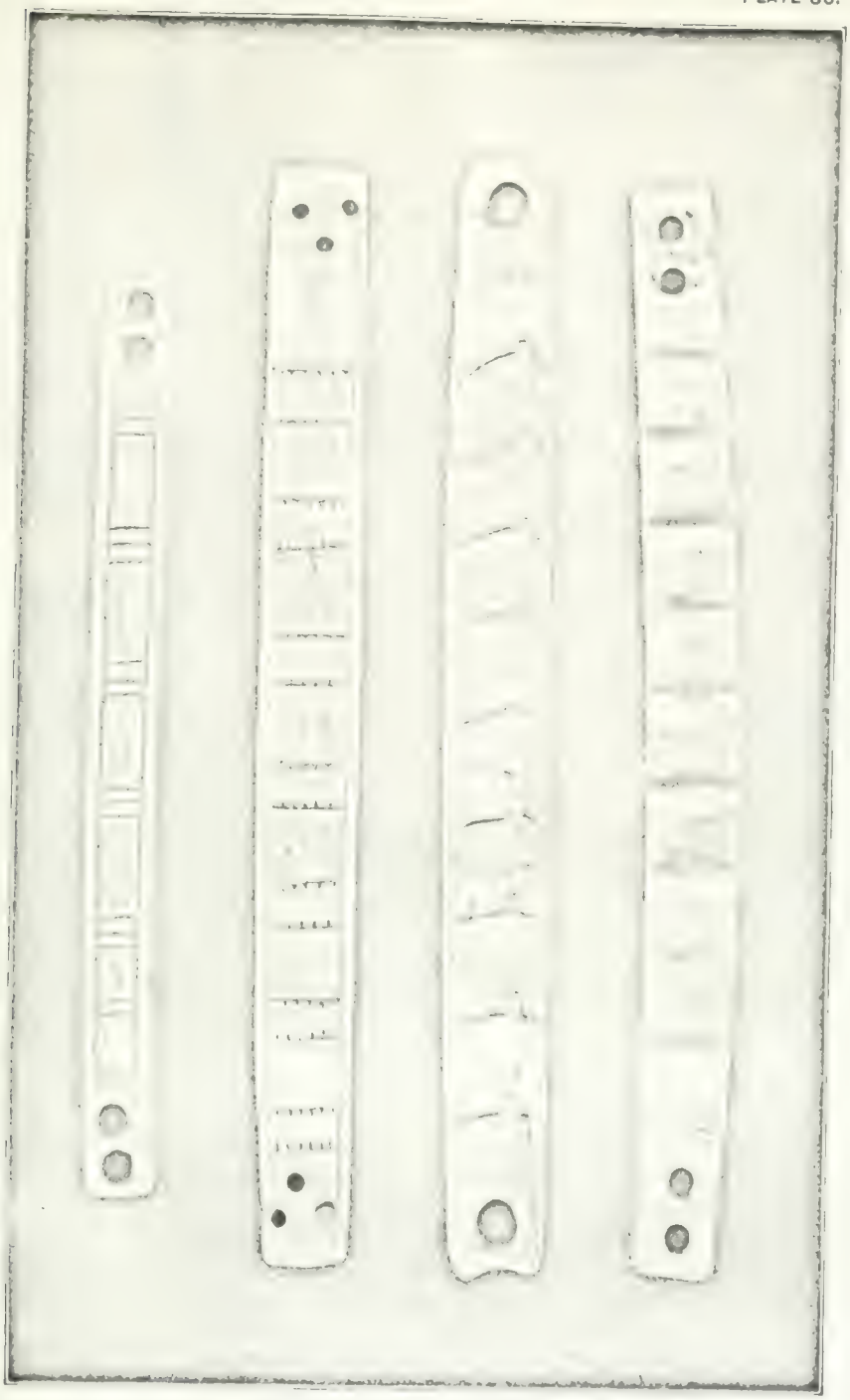


Fig. 1. KANTAG HANDLE.
(Cat. No. 43809, U. S. N. M. Ishaktolik. Collected by E. W. Nelson.)

Fig. 2. KANTAG HANDLE.
(Cat. No. 44276, U. S. N. M. Cape Darby. Collected by E. W. Nelson.)

Fig. 3. KANTAG HANDLE.
(Cat. No. 24730, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 4. KANTAG HANDLE.
(Cat. No. 45155, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)



ORNAMENTED KANTAG HANDLES.

length, between which are the short lateral lines and zigzag, showing the method of engraving and the artistic evolution of the pattern.

Plate 36, figs. 1–4, represent kantag handles. The specimen shown in fig. 1 is from Sledge Island, and is ornamented by two parallel longitudinal lines between which are cross lines by threes at intervals of about an inch. In fig. 2 the sets of cross lines are by twos, but on the inner side, facing one another, are short lines, as in the ornamental pattern before referred to as the fish trap or seal tooth, giving rise ultimately to the zigzag. In fig. 3 is represented a handle, upon the upper side of which the ornamentation consists of ten whales in relief, while upon the under side is a very neatly engraved mammal of the same species, though extending horizontally instead of transversely.

In fig. 4 the upper side represents two horizontal lines with the short lines extending inward between their opposing fellows, a sort of interdigitation, the interior spaces representing a rude zigzag with the outer angles being removed instead of being shaped to a point, as in the true zigzag.

In the next illustration of a bag handle, plate 31, fig. 4, are three parallel lines extending from end to end. From the outer lines inward are short lines at intervals of perhaps $\frac{1}{8}$ of an inch, while extending to either side from the central line are similar short lines extending outward so as to project between the short lines from without—a sort of interdigitation, resulting in a double row of the "fish trap" pattern or rude zigzag presented in so many of the illustrations.

Fig. 2 of the same plate also bears a series of like ornamentation, the concept perhaps also being found in the fish trap.

Plate 37, fig. 3, represents a bow, one end of which terminates in an animal's head, while about the neck, the middle, and the rear end are parallel lines, from the inner side of which and approaching the opposite side are small triangular points so arranged alternately from one side to the other as to leave an intervening space in the form of zigzag. This design is very common on work from several particular localities. It is used as an ornament in filling out blank spaces, as in the illustration (fig. 6 on the same plate, 37), where it serves to decorate seals' skins, seventeen of them being placed in a row. This may be compared with like illustrations in connection with conventionalizing.

Plate 31, fig. 1, represents a bag handle, locality unknown, upon which is shown a pattern consisting primarily of a central incision extending from end to end, from which radiate toward either side several series of diagonal lines, which appear to be similar in type to that shown in plate 38, fig 1, and on plate 39, fig. 2.

On plate 34, fig. 1, is a small wooden box obtained at Cape Nome. It has a sliding lid, while the two lower projections, resembling feet, are in reality the outlines of bears' heads. As will be noted, there are several outlines of flintlock guns shown upon the lid, besides other characters, while along the margin are short diagonal lines arranged

in the form of zigzags. A few Russian letters are incised upon the sides, indicating the natives' knowledge of, or acquaintance with, characters of that language.

In plate 34, fig. 2, is represented a box of almost the same form and from the same locality, the bottom being represented in the illustration, and upon it a variety of ornamentation very much in imitation of the patterns before mentioned and found on many of the specimens. Upon closer investigation, however, it will be observed that the marginal lines bear between them small arrowheads or <-shaped figures, while in the remaining spaces the ornamentation consists of parallel lines, the intervening spaces being ornamented by short diagonal lines. The two lozenges in the middle bear upon the center a cross, evidently suggested by Russian ecclesiastical pictures or literature.

Plate 37, fig. 1, is a plain white ivory bow drill from Point Hope. The ornamentation is visible in the illustration and consists simply of the wavy exterior produced by filing a series of indentations along the edge of the triangular bow.

Plate 37, fig. 5, also from Point Barrow, shows two parallel lines extending from almost one end to the other, between which are diagonal lines at short intervals. The bottom edge of the bow is indented at intervals of a little over an inch, leaving projections upon which small triangular figures extend from the bottom, presenting an ornamental effect. The coloring matter apparently consists of red ocher.

Plate 38, figs. 1, 2, 3, and 4, represent bag handles from Norton Sound, St. Michaels, the Yucon River, and Point Hope, respectively.

In plate 39, fig. 1, the ornamentation upon the upper side consists of a median horizontal line or crease terminating at one end with three perforations, which number occurs also at the other end of the rod. At right angles to this median line, at either end, are eight nucleated rings. At the center of the specimen are a like number, in the middle of which group is inserted a large blue glass bead. Upon the upper side, instead of a median line, the surface is filled with a continuous row of nucleated circles. Upon examination, however, it is observed that the circles consist of two or three different sizes, showing that instruments of that number of sizes were used. The rings indicate, furthermore, that the tool was of hard metal, but no doubt fashioned by the artist, a narrow piece of steel having a crotch filed into the end so as to leave two sharp points.

Plate 39, fig. 3, represents a very neat bag handle or bow drill nearly 18 inches in length. The top is fluted longitudinally by means of three deep creases, while in the outer sides are a series of cavities or scallops, also ornamented along the margin by incisions. This specimen is interesting because of the great number of nucleated circles scattered along the under side. Each of these circles seems to have been made with the same instrument, which was apparently a carpenter's bit, one-fourth of an inch in diameter.

EXPLANATION OF PLATE 37.



Fig. 1. DRILL BOW.
(Cat. No. 4894, U. S. N. M. Point Hope. Collected by E. W. Nelson.)

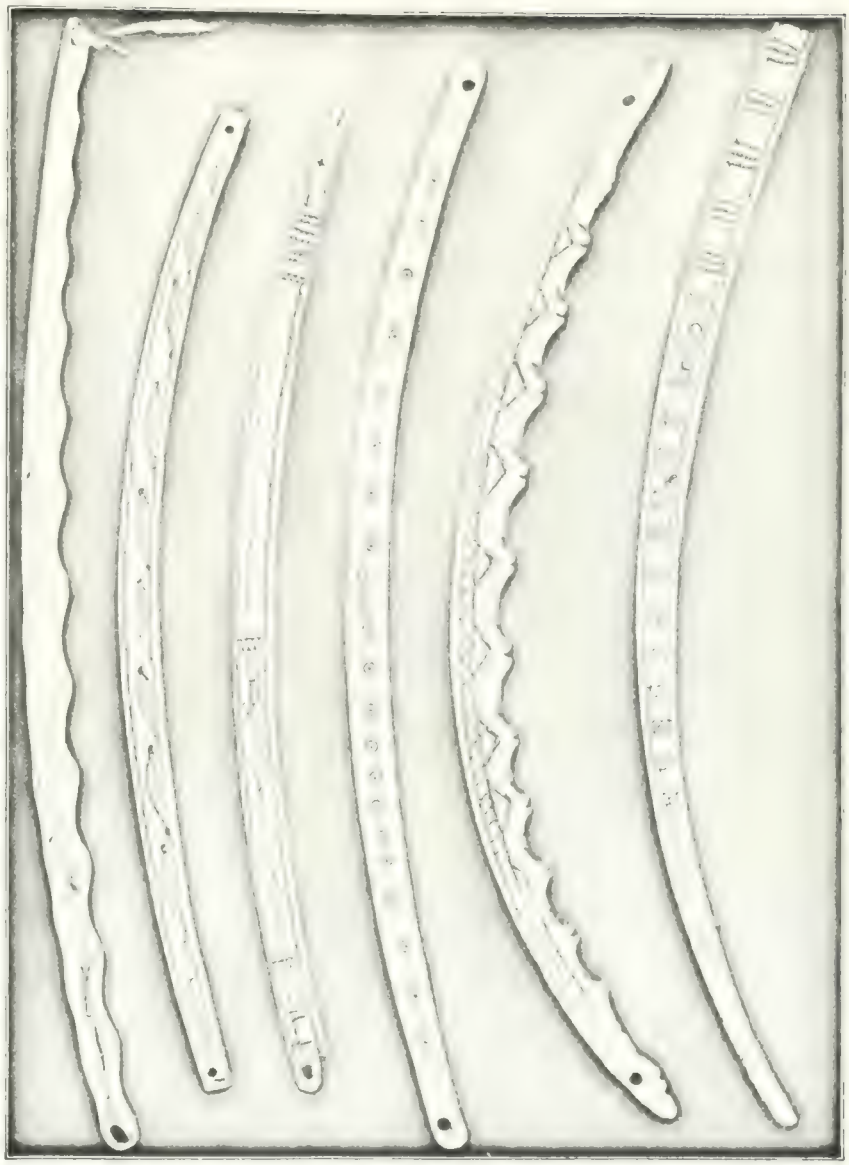
Fig. 2. DRILL BOW.
(Cat. No. 45346, U. S. N. M. Cape Nome. Collected by E. W. Nelson.)

Fig. 3. DRILL BOW.
(Cat. No. 33191, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 4. DRILL BOW.
(Cat. No. 89510, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 5. DRILL BOW.
(Cat. No. 56518, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 6. DRILL BOW. This specimen is 24⅛ inches long.
(Cat. No. 24540, U. S. N. M. St. Michaels. Collected by L. M. Turner.)



ORNAMENTED DRILL BOWS.

EXPLANATION OF PLATE 38.

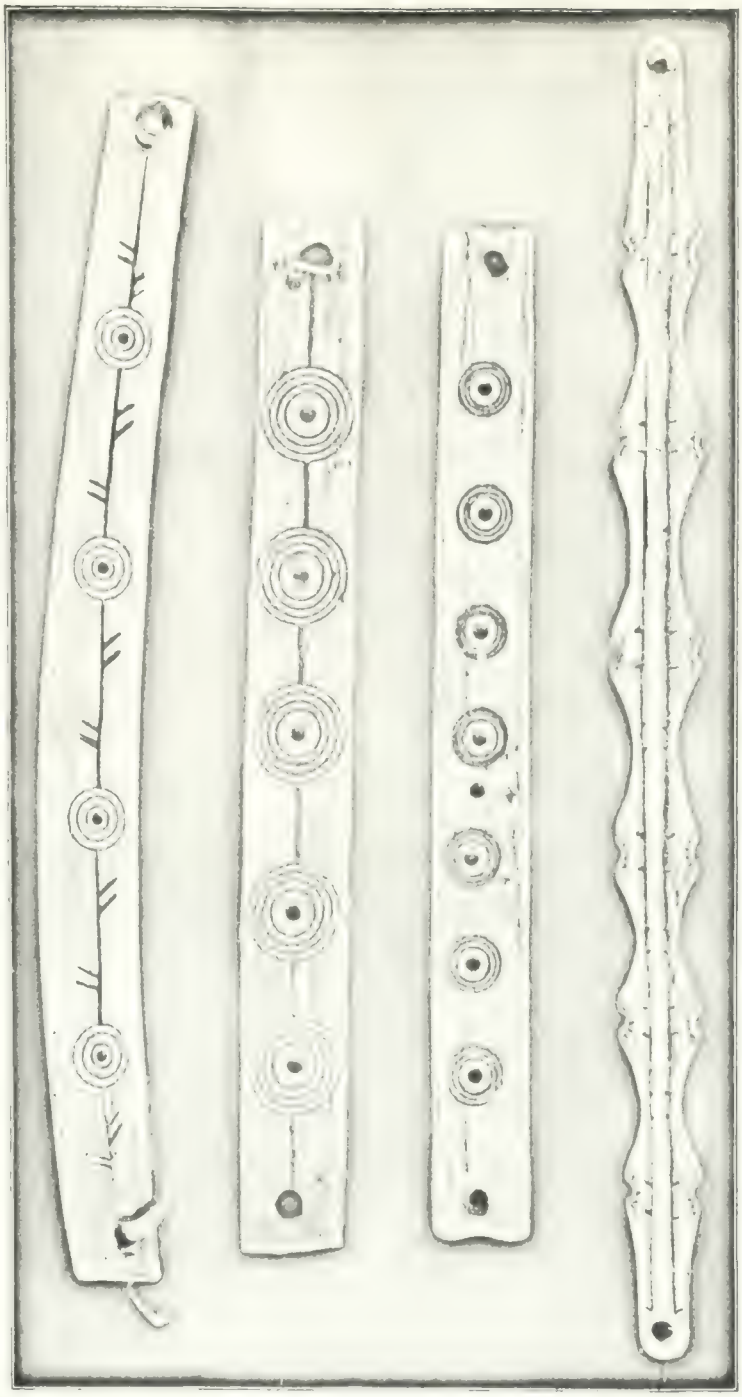


Fig. 1. KANTAG HANDLE.
(Cat. No. 24415, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 2. KANTAG HANDLE.
(Cat. No. 24425, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 3. KANTAG HANDLE.
(Cat. No. 38539, U. S. N. M. Yukon River.)

Fig. 4. KANTAG HANDLE.
(Cat. No. 63809, U. S. N. M. Point Hope. Collected by E. W. Nelson.)



ORNAMENTED KANTAG HANDLES.

EXPLANATION OF PLATE 39.

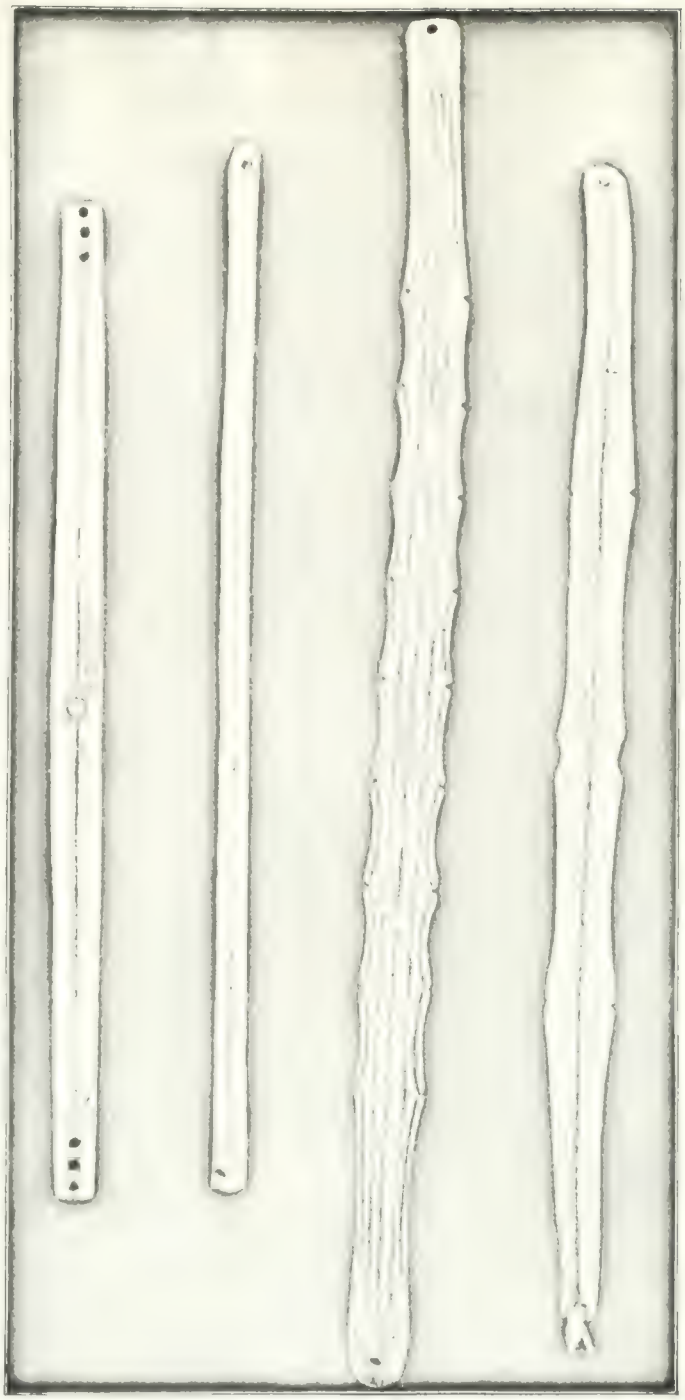


Fig. 1. BAG HANDLE.
(Cat. No. 89511, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

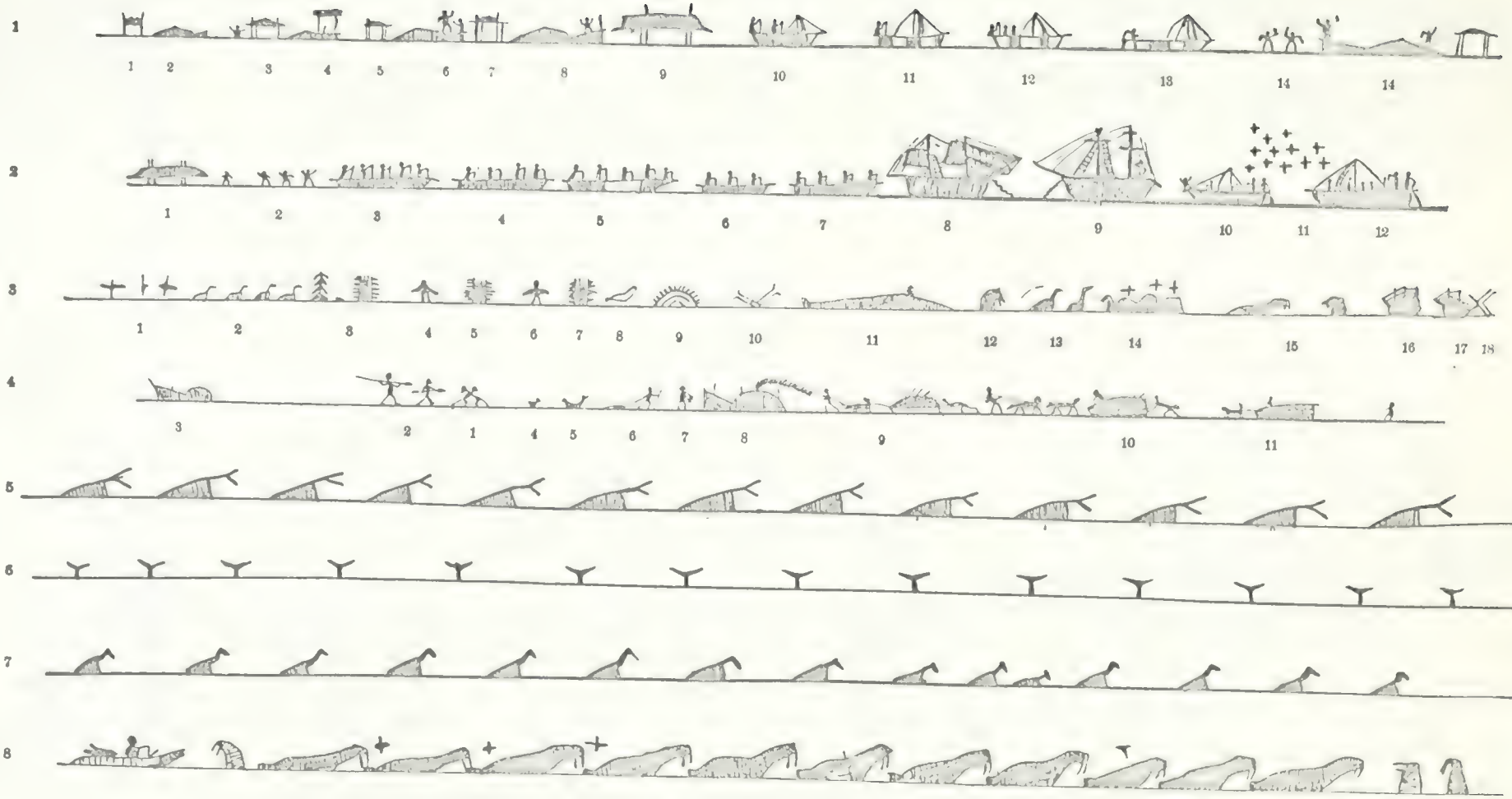
Fig. 2. BAG HANDLE.
(Cat. No. 24549, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 3. BAG HANDLE.
(Cat. No. 89423, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.,

Fig. 4. BAG HANDLE.
(Cat. No. 89512, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)



BAG HANDLES.



RECORDS FROM BAG HANDLES.

Plate 39, fig. 4, represents a bag handle marked with a single median line from which the specimen slopes toward either side of the outer edge, and it is also fashioned along the outer margin like the preceding one, though the curves or scallops are longer. Between each curve is a small V-shaped niche, while at the middle this is replaced by a short scallop or curve.

The specimen represented in plate 39, fig. 2, is decorated upon the upper side by a median horizontal line, deeply engraved, to which are attached, by pairs, short diagonal lines exactly resembling the herring-bone pattern, each pair of these patterns being about one-half an inch from the succeeding pair. Upon the lower or concave side is a similar median line, to one side of which are placed the figures of thirty-seven geese, or skuas, swimming toward the right. The figures are as nearly alike as can be made by the average native artist, and are equidistant from one another.

The regularity of the arrangement of these bird figures suggests that ornamentation was aimed at as well as a historic record.

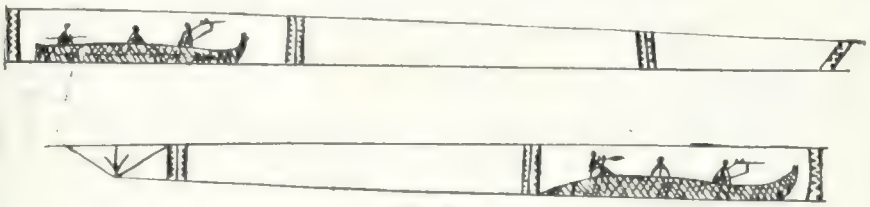


Fig. 34.

NATIVES ARMED WITH GUNS.

Fig. 34 represents but two of the five panels or spaces decorated, both of which bear figures referring to canoes in which the men at the rear are armed with oars, while those at the bow have guns raised as if about to shoot. The partitions consist of transverse ornamental lines, an improvement over the pairs or sets of vertical plain incisions shown on the paneled record in plate 36, fig. 2.

The serrated inner edges of the dividing lines, facing one another, resemble the conventional figures used to denote fish weirs, and appear in the present instance to have been used as ornaments. As before stated, the same pattern has been suggested, apparently, by the arrangement of the teeth of the seal, illustrations of which are of frequent occurrence in the collections of the National Museum.

In fig. 35 is the rude outline of an ivory harpoon head, on which the teeth of the seal are deeply incised, while in fig. 36 the pattern approaches more nearly the rude meander, between which and the true zigzag as made by the Eskimo there are constant gradations and blending of form.

The native in plate 40, bottom line, is following a herd of walrus. He is paddling with an ordinary one-bladed paddle, in front of which is the harpoon slightly elevated above the deck, and behind him is the

inflated seal-skin float, the rear end being bifurcated, showing the two flippers. Four cross-like characters denote flying birds.

The regularity and sameness of the figures seem to denote an attempt at ornamentation as well as a hunting record.

Plate 14, figs. 4, 5, 6, and 7, show specimens made of reindeer antler, and are from Norton Sound. The ornamentation is rude, and in all but one case consists of the representation of animals. In fig. 4 the design is of the "fish trap" pattern, with a median line and short alternate radiating incisions, the spaces being occupied by crosses, probably the simplest and rudest form of ornamentation excepting the simple straight line. At one end appears to be an indication of eyes and nostrils, but there is not sufficient marking to indicate whether this was intended for otter or seal.



Fig. 35.

SEAL HEAD, SHOWING TEETH.

The accompanying illustration, fig. 37, represents a tool the use of which is not known. "It has a point like a graver," says Mr. Murdoch, "and is made of reindeer antler, ornamented with a pattern of incised lines and bands, colored with red ocher, and was perhaps a marline spike for working with sinew cord."[1]

Plate 41, fig. 5, shows a small ivory wedge, used in splitting small pieces of wood. The specimen bears upon one side a nucleated circle with two lateral radiating lines, different from the conventional flower symbol, though resembling to some extent the circles and lines shown on plate 29, fig. 5. Along the upper edge are three parallel lines. From the outer ones, extending inward, are shown very short diagonal lines, being a rude imitation of some of the "fish trap" patterns.

A general view of the specimen, taking note of the short curve over the circle to denote an eyebrow, would suggest the head of a bird, the parallel lines along the lower left side very much resembling the mouth.

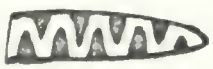


Fig. 36.

ARRANGEMENT OF INCISIONS TO DENOTE TEETH OF SEAL.

Plate 41, fig. 2, is a small ivory creaser used in decorating moccasins. Upon the sides are a series of parallel lines leaving three spaces, the central one consisting alternately of black and white squares, while the lateral spaces bear continuous rude meander or zigzag patterns. The latter are more neatly indicated by deeper incisions than usually found in ivory specimens.

Plate 41, fig. 3, represents a bone guard, such as is placed over the bow of a kaiak to protect it against floating ice. The chief ornamentation consists of three parallel lines extending along either side, within which is the rude meander pattern, while from the outer sides extends a sort of herring-bone pattern.

Plate 41, fig. 4, shows an ornament, broken at one end, which appears

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, p. 294, fig 288.

EXPLANATION OF PLATE 41.

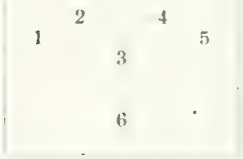


Fig. 1. WEDGE FOR SPLITTING WALRUS HIDE.
(Cat. No. 49739, U. S. N. M. Nunivak Island. Collected by E. W. Nelson.)

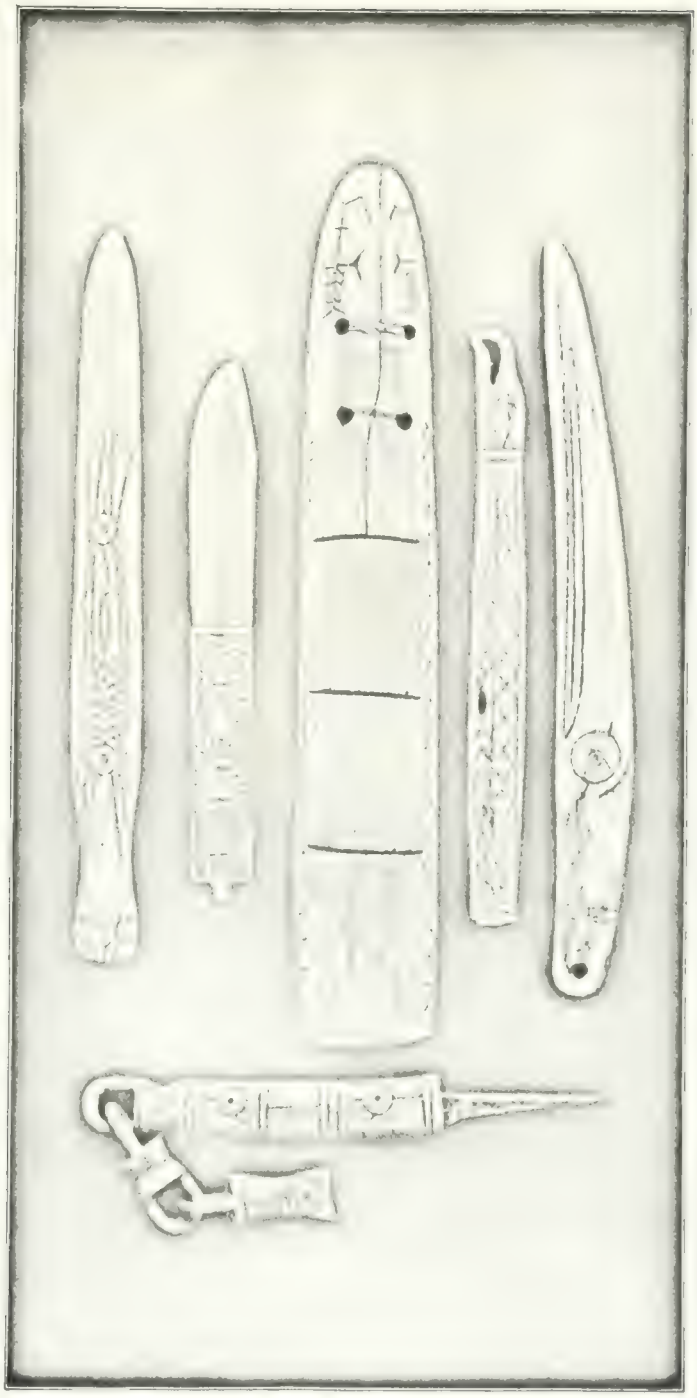
Fig. 2. CREASER.
(Cat. No. 45140, U. S. N. M. Sledge Island.)

Fig. 3. BONE GUARD FOR BOW OF BOAT.
(Cat. No. 33219, U. S. N. M. Collected by E. W. Nelson.)

Fig. 4. ORNAMENT.
(Cat. No. 37431, U. S. N. M.)

Fig. 5. IVORY WEDGE FOR SPLITTING WOOD.
(Cat. No. 48289, U. S. N. M. Nunivak Island. Collected by E. W. Nelson.)

Fig. 6. BODKIN.
(Cat. No. 37752, U. S. N. M. Chalitmut. Collected by E. W. Nelson.)



ORNAMENTED UTENSILS.

EXPLANATION OF PLATE 42.



Fig. 1. EAR PENDANT.
(Cat. No. 16199, U. S. N. M. Nunivak Island. Collected by E. W. Nelson.)

Fig. 2. TOY FISH.
(Cat. No. 43593, U. S. N. M. Cape Vancouver. Collected by E. W. Nelson.)

Fig. 3. HAIR ORNAMENT.
(Cat. No. 37093, U. S. N. M. Kushunuk. Collected by E. W. Nelson.)

Fig. 4. SPEAR GUARD FOR BOAT.
(Cat. No. 37759, U. S. N. M. Chalitmut. Collected by E. W. Nelson.)

Fig. 5. HOUSE HOOK, FOR HANGING UP UTENSILS.
(Cat. No. 73034, U. S. N. M. Collected by C. L. McKay.)

Fig. 6. SPEAR GUARD FOR BOAT.
(Cat. No. 37461, U. S. N. M. Anogogumut. Collected by E. W. Nelson.)

Fig. 7. ARROW STRAIGHTENER.
(Cat. No. 127893, U. S. N. M. Kowak or Putnam River, Alaska. Collected by Lieut. G. M. Stoney, U. S. N.)



ORNAMENTED UTENSILS.

to have served as a handle, as a small perforation in the middle seems to have been made for the purpose of inserting a cord. The upper side or half of this ornament is decorated with zigzag cross lines, while the lower has the herring-bone pattern, like the ornaments upon one side of the running figure in the preceding illustration, plate 41, fig. 3.

Plate 41, fig. 6, represents a bodkin, and is elsewhere referred to with respect to ornamentation.

DECORATION CONSISTING CHIEFLY OF CIRCLES.

The several objects represented on plate 42 are variously ornamented in simple patterns. Fig. 1 is an ivory ear pendant, which is creased spirally from end to end by one continuous line. Fig. 2 represents a toy fish, upon which is incised the figure of a wolf, with another linear character somewhat resembling a crude representation of the same species.

The hair ornament shown in fig. 3 on the same plate is decorated along the upper half by two pairs of transverse parallel lines, between

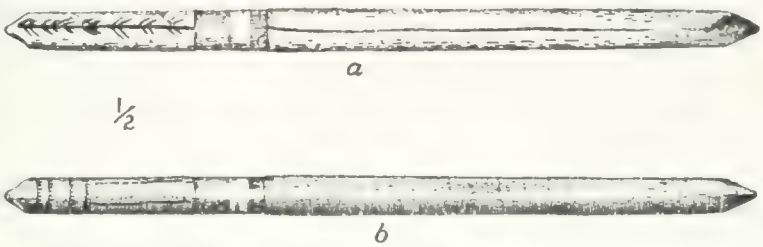


Fig. 37.

TOOTH OF ANTLER. POINT BARROW.

which are cross lines to resemble the common portraiture of a suspended seine net, as shown on plate 59, also in fig. 79 on page 865.

The spear guard shown in plate 42, fig. 4, bears a simple vertical line from which diverge, downward and on either side, three lines, between which are small punctures. This enlarged figure suggests a like origin as the ornamented line in the middle of fig. 6, the latter having for its conception, no doubt, the plant symbol mentioned and figured elsewhere, particularly in connection with plate 77, and in fig. 70, page 863. Compare also with fig. 11, on plate 77, and other types of circles represented thereon, which occur upon various types of Eskimo utensils and ornaments.

Plate 42, fig. 5, is a common hook made for use in suspending various household articles.

In addition to the lateral diverging lines, the central one is absent, but in its stead a continuation of perforations from which radiate three incisions, made by means of a narrow saw or a sharp-edged file. These incisions serve instead of the narrow or shallow creases noted on figs. 4 and 5. Punctured spots are also added to serve as additional ornaments.

The lower figure on plate 42, fig. 7 is an arrow straightener, made of ivory. The lower longitudinal line has similar, though more frequently recurring, lateral lines than on fig. 6, while the side bears a continuous row of nucleated circles, the central cup-like perforations being unusually large in comparison to the rings surrounding them, clearly indicating that a one-eighth-inch auger bit was used in their production, as a smaller instrument made specially for incising rings (as the V-shaped cuts in the end of a piece of metal) would naturally have the two points equally pointed. (Compare plate 77.)

The reverse of the side bearing the median line bears a similar incision from end to end, but the lateral, oblique, radiating lines are each between one-eighth and one-half inch in length, somewhat between the two sizes noted on plate 8. This is evidently without significance other than that of ornamentation.

In a private communication of recent date Mr. L. M. Turner informs me, with reference to the circle, that "this ornament is much more common south of Bering Strait, where it is a conventionalized representation of a flower." Mr. Murdoch[1] writes:

Some of the older implements in our collection, ornamented with this figure, may have been obtained by trade from the southern natives, but the Point Barrow people certainly know how to make it, as there are a number of newly made articles in the collection thus ornamented. Unfortunately, we saw none of these objects in the process of manufacture, as they were made by the natives during odd moments of leisure, and at the time I did not realize the importance of finding out the process. No tool by which these figures could be made so accurately was ever offered for sale.

Neither Mr. Turner nor Mr. Dall, both of whom, as is well known, spent long periods among the natives of the Yukon region, ever observed the process of making this ornament. The latter, however, suggests that it is perhaps done with an improvised centerbit, made by sticking two iron points close together in the end of the handle. * * * Lines rarely represent any natural objects, but generally form rather elegant conventional patterns, most commonly double or single borders, often joined by oblique cross lines or fringed with short, pointed parallel lines. * * * While weapons are decorated only with conventional patterns, other implements of bone or ivory, especially those pertaining to the chase, like the seal drags, etc., are frequently carved into the shape of animals, as well as being ornamented with conventional patterns.

Mr. L. M. Turner says, furthermore:

The circles which have smaller ones within represent the so-called "kantag" (a word of Siberian origin introduced by the Russians), or wooden vessels, manufactured by Indians and bartered with the Innuit for oil and sealskin bootsoles, etc. These "kantags" are sometimes traded in nests, i.e., various sizes, one within the other. (See figs. 4, 7, and 10, on plate 77.)

Regarding the "circle figures," Mr. Turner[2] remarks further:

I know from information given by one of the best workers of bone and ivory, also pipe-bowls, in the Unaligmut (or Unalit) village, near St. Michaels, that the circle means a flower when it has dentations on the outer periphery, and some that were unfinished on an old much used handle for a kantag (wooden vessel) were also said by him to mean flowers.

[1] Ninth Annual Report of the Bureau of Ethnology for 1887–88, 1892, pp. 390, 391.
[2] Letter dated February 25, 1895.

EXPLANATION OF PLATE 43.

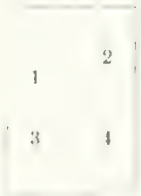
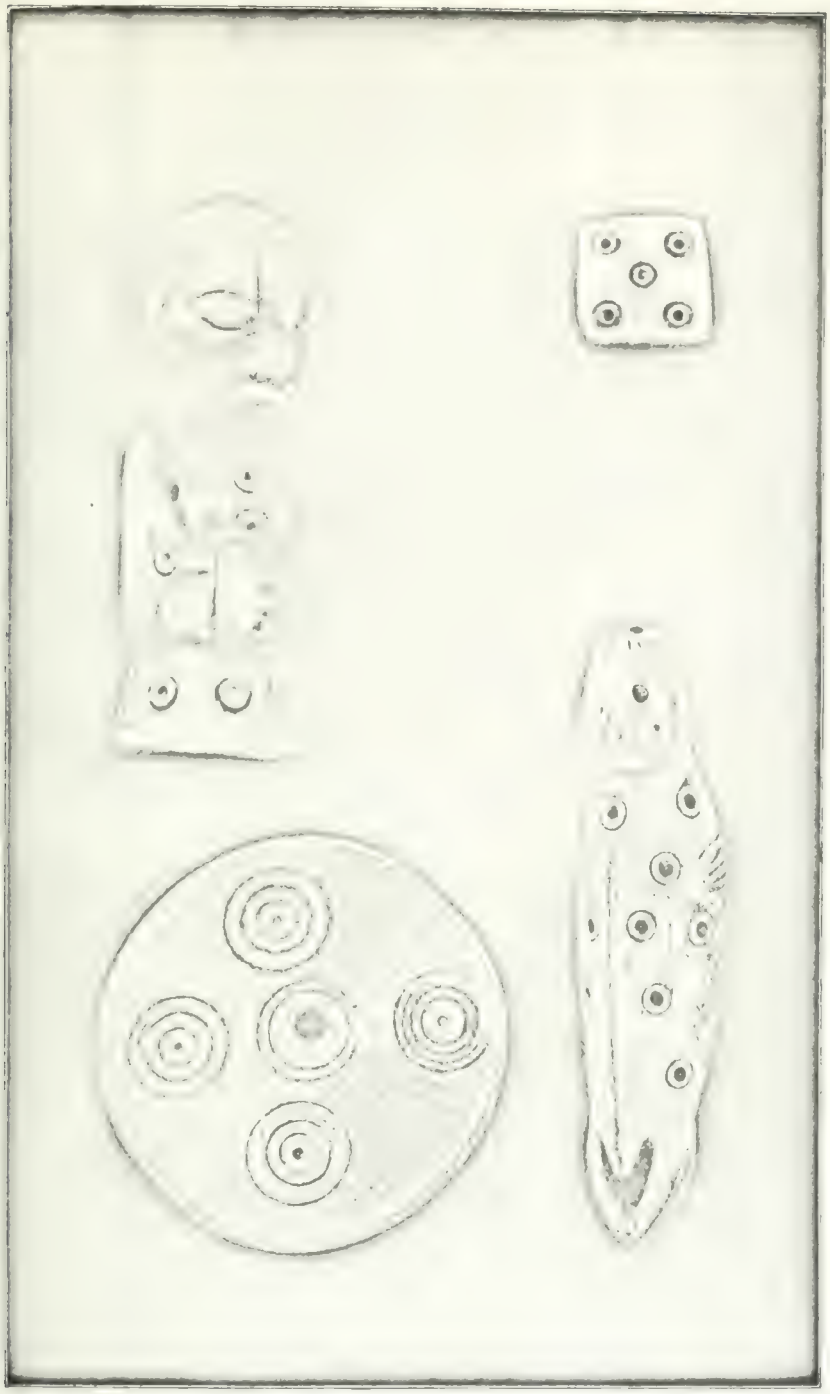


Fig. 1. FETISH MADE OF HIPPOPOTAMUS TOOTH.
(Cat. No. 174704, U. S. N. M. Lukuga River, Kongo. Collected by Dorsey Mohun.)

Fig. 2. HAIR-DRESSING PIN.
(Cat. No. 174737, U. S. N. M. Lukuga River, Kongo. Collected by Dorsey Mohun.)

Fig. 3. HAIR-DRESSING PIN.
(Cat. No. 174736, U. S. N. M. Lukuli River, Kongo. Collected by Dorsey Mohun.)

Fig. 4. SEAL DRAG HANDLE. Effigy of the animal.
(Cat. No. 33618, U. S. N. M. St. Michaels, Alaska.)



ORNAMENTED CARVINGS. AFRICA AND ALASKA.

Those circles also represent the arms; just why I do not know. The spots over a dog's eyelid, usually brown in color in the dog, are also called Tuq, and a dog thus marked is called Tuqoliq. The word refers to the dark colored portion of that region and has nothing to do with the orifice, but when the circle is made thus ⊙, then it refers to the hole [spot] and the surrounding part.

I have elsewhere shown how the circle, or rather the spiral, may be drawn to denote mobility, as in the shoulder joint of the figure of a grasshopper to denote the Nahuatl symbol for Chapultepec.[1] The circle is also used on various figures of seals, and apparently denotes the shoulder joint, as shown in harpoon head in the collection of the Museum (No. 43750). Further illustration of the conventional use of circles is given under the caption of Conventionalizing, with plate 75.

The employment of an iron or steel bit, evidence of which appears to have been one about three-sixteenths of an inch in diameter, is shown upon a neatly-carved seal obtained in St. Michael's, here represented as the lower right-hand figure on plate 43, fig. 4. The specimen was used as a seal drag, two perforations beneath the reach communicating with a larger one at the lower part of the abdomen, through which the necessary cord was passed. These bit marks are in the form of decorative circles, the central holes being in each filled with a wooden peg, the eyes, though smaller, also being plugged with hard wood.

Plate 37, fig. 4, represents a specimen of bag handle or drill bow from Point Barrow, showing a number of nucleated rings, only one nucleus being without the second outer ring, indicating that these circles are made with different instruments.

Similar nucleated circles appear upon specimens from an entirely remote locality. In fig. 1 of the remaining specimens upon plate 43 we have a fetish made of hippopotamus tooth, secured by Mr. Dorsey Mohun on the Lukuga River, in the Kongo State, Africa. The nuclei are probably one-eighth of an inch in depth, while the circle surrounding each one-fourth inch in diameter. The groove clearly indicates the use of a metal tool in every respect resembling the circles and respective central pits upon the ornamented drill bow shown in fig. 4 on plate 37.

The specimen referred to is an imitation of the human form, the head slightly bowed forward, the arms close to the body, with the hands reaching toward each other before the body. The body is represented as cut off a little below the umbilicus, and is scooped out below as if intended to be placed upon a rod.

Another specimen, fig. 2, represents a hair dressing pin, from the same locality, 2¾ inches long, with a sharp point below, while the almost flat top or head is ornamented with five similar nucleated circles, each three-sixteenths of an inch in diameter.

The remaining specimen, fig. 3, from the Lukuga River, Kongo State, Africa, is a slightly concave disk, bearing five series of concentric

[1] "Beginnings of Writing." Appleton & Co., N. Y., 1895. p. 90, fig. 49.

circles, the central perforation in the middle passing entirely through the piece of ivory, which at that point is three-fourths of an inch thick. The circles were also made with a metal tool, more likely of native manufacture, out of a piece of foreign iron or steel, the end of which was filed ∧-shaped, as mentioned in connection with the instruments of the Eskimo.

These African specimens, two made of hippopotamus teeth and one of ivory, are similar in texture to the materials employed by the Eskimo, and the process adopted practically the same because of such texture.

These illustrations are here introduced not with the object of tracing the migration or transmission of a given pattern, but because of the interest naturally excited by the independent discovery of a process of workmanship found to have developed in such widely remote localities.

In northern Africa the same form of circle, nucleated and as concentric rings, is very much employed for decorative purposes. What the original signification may have been it is now, perhaps, impossible to determine, and it may be that in the two localities to be referred to below the designs were brought from Europe, and probably originally from the Ottoman Empire.

On plate 44 is shown a leather, brass mounted knife sheath, at the upper end of which is a tolerably fair attempt at a figure consisting of concentric rings, while beneath it a series of rectangular figures within one another. The designs are produced by pressure from the under side, the patterns having been made before the piece of sheet metal was placed about the sheath. This example is from Tangier, in Morocco.

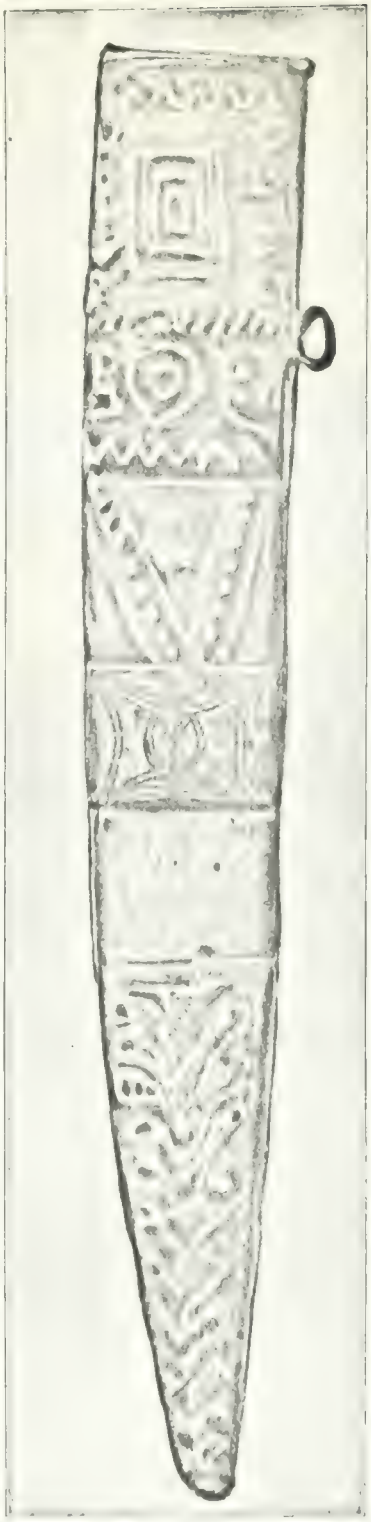
From an antique subterranean chapel at Carthage was obtained, about fifteen years since, a collection of Christian lamps and other evidences of the secret profession of the then new faith, among the ornamentation upon some of which relics are many symbols of Christianity and of monograms of the name of Jesus Christ, but the most interesting in the present connection is the recurrence of the very widespread figure of concentric rings, as also of squares or rectangular figures within one another, as will be observed upon the illustration of the Roman lamp in plate 45.

This illustration is reproduced from an article by A. Delathe on Carthage l'antique chapelle Souterraine de la Colline de Saint-Louis.[1]

Upon another lamp of the same general form, from the same locality, is a cross pattée, the arms of which are severed with nucleated and concentric rings, exactly like many of those upon Alaskan objects.

The larger rings and square figures upon the lamp shown in plate 45 resemble those upon the brass-ornamented Moorish knife sheath from Tangier, Morocco (plate 44), where it was secured by Lieutenant A. P. Niblack, U. S. N. The chief interest lies in the two designs near the

[1] Cosmos, Revue de Sciences et de leurs applications, Paris, Nouvelle Sér, 582, 1896 (March 21), p. 495.



KNIFE SHEATH. TANGIERS, MOROCCO



ROMAN LAMP. CARTHAGE.

top—one a figure of rectangles within one another, and the other a figure of rude rings surrounding one another.

It is strange that these two designs should be suggested upon the Roman lamp from Carthage, the latter of an early Christian period, and from the same quarter of Africa. It is probable that both designs may have their origin in the peculiar Oriental patterns so freely employed in Mohammedan countries, in some of which they even antedate the birth of Mohammed. The occurrence of like designs in Turkestan is also mentioned, and their apparent absence in Hindustan, as illustrated by the collections in the National Museum, is rather remarkable.

The delicate zigzag lines on the middle band of the sheath are apparently made in the same manner as like patterns on Polynesian weapons and ornaments, by pressing forward upon the tool, and at the same time rocking it from side to side, the lateral incised points being made as the lateral cutting edge is depressed, and again liberated when turning the tool toward the opposite side to make a similar mark. The work is performed rapidly, and may be crudely though similarly imitated by means of a very narrow chisel and a piece of hard wood.

The recent discoveries in Egypt by Mr. Flinders-Petrie are of so high an interest to archæology generally, that a brief reference thereto may be of interest, especially so because some of the pottery is decorated not only with figures of animals and birds, but a common decorative motive which represents "a long boat with two cabins, an ensign pole, and many oars; sometimes the figure of a man is added." A red ware, said to have been imported from the Mediterranean region, bears decorations of "dents de loup," flowers, and plants.

Of great interest is the discovery of vessels bearing numerous figures of concentric circles, vases of ruder type than the lathe-made ceramics of the Egyptians, and recognized to be the workmanship of a foreign people.

These intruders, the evidences of whose general culture, beliefs, and funeral customs show them to have been strangers in the Nile Valley. Not a single detail of their culture did they hold in common with the Egyptians. Moreover, their number, which was found to have spread over a considerable portion of upper Egypt, from Abydos to Gebelen, over one hundred miles, whilst their influence was observable from Tenneh to Hieraconpolis, i. e., over three hundred and fifty miles, and absolute control of the region which they assumed and which is shown by the total absence of any object recalling Egyptian civilization, show them not only to have been invaders, but invaders who once had swept over the region and who, settling down, had lived there for a considerable period, borrowing little or nothing of the people whose land they occupied.[1]

In connection with the report made by Mrs. Cornelius Stevenson, whose words I have quoted, Doctor D. G. Brinton remarks that these

[1] Proceedings of the American Philosophical Society, Philadelphia, Pa., XXXV 1896. p. 57, Plate IV.

intruders were probably Libyans—that is, Berbers—the ethnography of which stock has been a special study with him. Doctor Brinton remarks: "This identification, I believe, will finally be established. If we examine the configuration of the Nile Valley and its surroundings, no other theory is tenable, providing the Libyan stock extended that far south of the Mediterranean at a date 3000 B. C. We know they did, and much earlier, from their very early presence in east Africa." It appears to be conclusively shown by Doctor Brinton's further arguments that the "new race" was of the Libyan stock.

The origin of the concentric circles and other incised ornamentation as decorative motives on this pottery would seem to have come from the Mediterranean, perhaps north of it, where a near approach is found in later Neolithic stations in Italy, Spain, and in the lower strata of Hasserlik. Could there have been a prehistoric common center of development of this very common ornament in northwestern Europe, from which it was carried into Scandinavia, and the valleys of certain portions of France, where its occurrence is so frequently remarked in bronze and other articles of personal adornment?

It has been shown that trade routes existed in prehistoric times between Italy and the Scandinavian Peninsula and Denmark, the scattered graves en route producing amber for one side and ornaments of south European manufacture on the other. Similar trade routes, which were also culture routes, have also been suggested as having existed between Scandinavia across northern Europe and Asia down into India. Why could not like routes have been followed in prehistoric times along the lines of the localities producing so much jewelry and fictile ware chiefly ornamented with spirals and concentric rings?

That trade routes existed between the countries of the Mediterranean, even as far east as Macedonia, has been well established, and the following remarks are of interest in this connection:

In the June number of "The Strand Magazine"[1] appeared an illustrated article devoted to finds of coins in Great Britain, one illustration in particular attracting my attention because of the presence upon the reverse of a nucleated ring, which character in this connection appears to have no apparent relation with the other objects represented upon the coin and with which it is associated.

Upon reference to the various works on the coinage of the ancient Britons, several curious, interesting, and apparently new facts present themselves—facts which may with propriety be here referred to. The subject seems to me to be closely related to that under consideration in so far as it relates to trade or culture routes, and the adoption of characters by a people with whose signification or import they may be unacquainted, and the ultimate replacement of such characters which may be of importance in and a necessary part of the prototype, by the sub-

[1] London, 1896.

stitution of their own characters or symbols, through which change the signification of the legend upon the prototype is lost, and would no longer be recognized by the authors thereof.

I have already referred to the coinage of the Britons, as treated in the admirable work of Doctor John Evans,[1] to which the reader is referred for full details and ample illustrations in support of the suggestions ventured below.

I have had occasion to refer to British coins bearing the figure of the horse, with additional legs to denote that more than one such animal was intended. Such practice of representing a part for the whole, or vice versa, was referred to as synecdoche, and as being common to the pictographic records of the North American Indians.

On plate 43, fig. 3, is the representation of an uninscribed British gold coin, upon the reverse of which appears the outline of a horse, each leg divided into two, so as to resemble—in fact, give—eight legs, and suggesting the two horses noticeable upon the obverse of the typical prototype, as shown in fig. 1 on the same plate. Now, looking at the legs of the horse on the reverse of fig. 2, there will be seen the same number of legs, with the exception that the engraver of this piece has united each pair at the fetlocks, so as to terminate in one hoof, instead of two hoofs, as in some other examples.

In the specimens of the same series of coins the successive copying of designs has resulted in solid legs instead of by pairs, thus returning to a pattern on which but a single animal is portrayed.

But to return from this digression. It is necessary to show how the original patterns came to be employed by the designers for the British coins. It has been pretty clearly proven by Doctor John Evans, Mr. Hawkins, and others, that the ancient Britons were possessed of money long before the time of Cæsar's visit. The distinct mention of money

[1] "The Coins of the Ancient Britons." London: 1864–1890.

See also Adamson's Account of the discovery at Hexham, in Northumberland, of Anglo-Saxon coins called Stycas. Royal Society of Antiquarians of London [1834 ?]. Illustrations of 941 coins.

Doctor Stukeley's "Twenty-three plates of the Coins of the Ancient British Kings," London. [1765.]

Doctor Evans remarks that "the coins themselves are most inaccurately drawn," yet they are interesting as showing a certain degree of evolution and alteration of characters which the engravers copied or attempted to copy from the prototypes.

Nummorum Antiquorum Scriniis Bodleianis Riconditorum Catalogus cum commentario tabulis æneis et appendice. [Oxonii ?] A. D. 1750. Plates.

Nummi Britannici, of interest in present connection, are shown on Plate XVI.

Annals of the Coinage of Britain, by the Rev. Rogers Ruding, B. D. 4 vols. London, 1819. Plates and map.

The Silver Coins of England, by Edward Hawkins, F. R. S., etc. London, 1887. 8°. Plates and map. Gives illustrations of British coins similar to other derivatives of the Macedonian Phillipus.

Celtic Inscriptions on Gaulish and British Coins. Beale Poste. London, 1861. Plates I–XI.

occurs in various classic writings of the time of Cæsar, and yearly tribute is noted by Dion Cassius, Eutropius, Diodorus, Strabo, and others.

Doctor Evans remarks:

It may indeed be urged that these writers are all of them later than Cæsar; but it is to be observed that the information upon which some of them wrote was derived from earlier sources, and that not one of them treats the presence of gold and silver in this country as of recent date, or appears to have had the remotest conception that in the time of Julius Cæsar it was destitute of them.[1]

Commerce between the Gauls and Britons existed long anterior to the period of the Roman invasion, and a native coinage existed also among the Gauls. The intercourse of the Phœnicians and Britons was also of an early date, and the founding of the Greek colony of Massilia (Marseilles)—usually placed at about B. C. 600—also aided in civilizing that part of Gaul, where the neighboring Gauls no doubt first learned of the usages of civilized life, the effect of such acquirements gradually extending toward the channel settlements, and finally across and among the British tribes. From this center of civilization, says Doctor Evans, the Gauls became acquainted with the art of coining.

The early silver coins of Massilia (and none in gold are known) were occasionally imitated in the surrounding country; but when, about the year B. C. 365, the gold mines of Crenides (or Philippi) were acquired by Philip II of Macedon, and worked so as to produce about £250,000 worth of gold per annum, the general currency of gold coins, which had before been of very limited extent, became much more extensive, and the stater of Philip—the regale numisme of Horace—became everywhere diffused, and seems at once to have been seized on by the barbarians who came in contact with Greek civilization as an object of imitation. In Gaul this was especially the case, and the whole of the gold coinage of that country may be said to consist of imitation, more or less rude and degenerate, of the Macedonian Philippus.[2]

Doctor Evans further remarks:

Another reason for the adoption of the Philippus as the model for imitation in the Gaulish coinage has been found in the probability that when Brennus plundered Greece, B. C. 279, he carried away a great treasure of these coins, which thus became the gold currency of Gaul. This would, however, have had more effect in Pannonia, from whence the army of Brennus came, than in the more western Gaul.

On plate 46, fig. 1, is reproduced a type of the Philippus, the laureate head upon the obverse representing Apollo (or, according to some, of young Hercules), while on the reverse is shown a charioteer in a biga, with the name of Philip below a horizontal line in the exergue.

The biga on these coins of Philippus II refers to the victories of Philip at Olympia. The resemblance to Apollo may have been suggested by some relation to that identification of Hercules and the sun which prevailed in Asia at a later time, and possibly as early as that of

[1] "The Coins of the Ancient Britons." London: 1864–1890, p. 20.
[2] Idem., p. 24.

EXPLANATION OF PLATE 46.

Fig. 1. Stater of Philip II. of Macedon.

Fig. 2. Uninscribed gold coin of ancient Britons, believed to have been designed after stater of Philip. Gold; weight, 111 grains.

Fig. 3. Resembles preceding, though bust and horse face toward left. Weight, 114 grains.

Fig. 4. Also uninscribed and of gold. The fillet is of leaves turned upward; the horse is disjointed, and greater departure from the prototype is apparent.

Fig. 5. Another gold imitation of the stater, but still greater dissimilarity is apparent on the reverse.

Fig. 6. Five small dots are introduced in the face, so as to cover the space between the eyes and hair. Beneath the horse, the helmet, visible in the stater, has become a circle surrounded by small dots.

Fig. 7. The departure from the prototype is still more interesting in this specimen—a nucleated circle, a plain circle, and a pellet appearing beneath the horse in place of the helmet. Doctor Evans, from whom these references were obtained, remarks that this specimen shows "a curious instance of extreme degradation from the type of the Phillipus on the reverse."

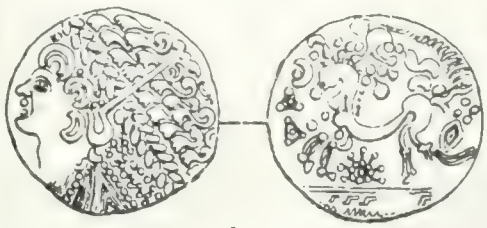
Fig. 8. The headdress resembles a cruciform ornament, with two open crescents placed back to back in the center. The reverse bears the horse, with both a circle and a wheel-shaped ornament in lieu of the helmet.



1



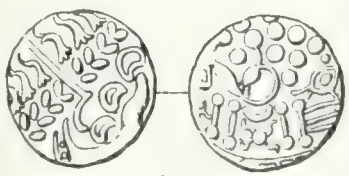
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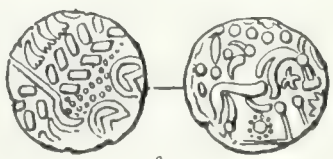
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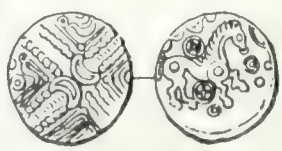
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6



7



8

BRITISH IMITATIONS OF MACEDONIAN STATER.

Philip II.[1] Between the horses and base line is the figure of a helmet, suggesting the head gear of the slain over which the victor is driving. On some specimens the helmet is replaced by the fulmen, a △, or the Greek *Γ*.

Because of the limited space, the wheel of the chariot is rather oval, suggesting perspective on the engraving, though on later imitations this can not be claimed for the elliptical form of the wheel or the character substituted therefor. "The earliest of the Gaulish imitations," says Doctor Evans,[2] "follow the prototype pretty closely, but eventually both the head and the biga become completely transformed."

The earliest British coins showing such imitation of the Philippus are believed to be of the period of 150–200 B. C., although the death of Philip II took place B. C. 336, so that his coins began to be imitated in Gaul about B. C. 300.

The author whom I have above quoted says also that coins reduce in weight for the sake of the small gain of the governing power; and coincident with such reduction in weight, and perhaps size, there is a remarkable change in types, in each successive imitation, thus departing more and more from the original prototype. "The reduction of a complicated and artistic design into a symmetrical figure of easy execution was the object of each successive engraver of the dies for these coins, though probably they were themselves unaware of any undue saving of trouble on their part or of the results which ensued from it."[3]

By reference to the illustrations as figs. 4 and 5, and plate 47, figs. 3 and 8, examples selected from many diverse forms, there will be observed a most remarkable deviation in engraving from the original type. The wreath and hair become so strangely altered as to be scarcely recognizable, a few geometric or other simple figures serving in place of the leaves and locks. These finally result in a cross-like figure, as in plate 47, figs. 1 and 2, while in some still other imitations the head is represented by an ear of grain, like wheat or rye (designated by Doctor Evans as corn).

The most interesting changes occur, however, upon the reverse of the imitations, and it is to these changes that I wish to make special reference.

As stated, the typical Philippus bears beneath the horses a helmet, as shown upon the illustration in plate 46, fig. 1. This article of head gear may or may not have been known to the Gauls, and if it were, it is more than probable that the Britons were unfamiliar with it, being more remote from the peoples by whom such defensive armor was used, so that even if the helmet was represented upon Gaulish imitations, the British engraver seems to have ignored the exact form and

[1] Eckhel. Quoted at second hand from Numismata Hellenica, by William Martin Leake. London, 1886, in footnote.

[2] "The Coins of the Ancient Britons." London, 1864–1890, p. 24.

[3] Idem., p. 28.

to have made what he thought may have been intended, or perhaps even ventured to introduce a British symbolic figure, the signification of which he did comprehend.

It is probable, also, that, in the absence of good tools for engraving metals, some of the simpler designs were made by using a pointed punch or like tool, and punching the patterns or parts of patterns desired. The pellet, surrounded by a ring of pellets, was equivalent to a ring with its nucleus, as in plate 46, fig. 8. The figure also presents itself as a circle with four small pellets arranged in the form of a cross, and plate 46, figs. 2 and 6, and finally in the semblance of a wheel with six, seven, or eight spokes, illustrations of which are given in plate 46, figs. 7 and 8, and plate 47, figs. 1, 2, and 8. Leaving off the circle suggested a cross, as in the former, and a star, as in plate 47, fig. 3, both without doubt Druidical symbols, as was also the nucleated ring, of all of which numerous examples occur. This cross or star form ultimately gave rise to imitations of crab-like objects, which in turn were interpreted to denote figures resembling the hand. Such gradual though persistent imitation resulted in some remarkably dissimilar patterns, as may be noted by comparing the typical Philippus in plate 46, fig. 1, with the illustration, plate 46, figs. 5 and 6, while beneath the figure of a disjointed horse on plate 47, fig. 3, the star survives; while the head upon the obverse retains but a few rectangular marks to denote leaves, while the right-hand upper figure signifies the eye, and the lower broken circle, bearing a <-shaped attachment, the mouth.

The △, which has been referred to as a variant, and rarely occurring beneath the body of the horse, has been reproduced as a triangle, the angles of which consist of nucleated circles connected by short lines. This symbol is also an astronomical character, and is of frequent occurrence on various petroglyphs located in that area of country formerly occupied by the several tribes of Indians composing the Shoshonian linguistic family.

Again, the same object figures extensively in the mnemonic records of the Ojibwa Indians, especially those records relating to the shamanistic ritual of the Midē'wiwin, or Grand Medicine Society, elsewhere described in detail.[1] Another symbol found in lieu of the triangle, though without doubt a variant of it, resembles an Ojibwa symbol to denote "the mystic power of looking into the earth and there discovering sacred objects." It consists of three rings, or perhaps even nucleated rings, placed in the form of a triangle, a wavy line extending around the upper circle and downward to either side toward the lower ones, denoting "lines of vision." What the signification of the character upon the coins may have been it is impossible to imagine, unless it were merely a variant of the △, which in turn may have been a conventionalized form of the helmet, as shown in the typical Philippus on

[1] See the writer's exposition of this ritual in the Seventh Annual Report of the Bureau of Ethnology for 1885–86, 1891, p. 143.

EXPLANATION OF PLATE 47.

Fig. 1. The head ornament on this piece becomes more cross-like than in the preceding, while upon the reverse the appearance of a nucleated circle beneath the horse is counterbalanced by another with an additional circle of dots or pellets about it above the animal's back. Upon the reverse is the name of a prince, TASCIOVAN, whose Latinized name would be TASCIOVANUS, the exact form in which the name appears upon the coins of Cunobeline, who proclaims himself to have been TASCIOVANI F.

Fig. 2. On this piece the cruciform ornament becomes still more intricate, while the circles are in various forms and of various types.

Fig. 3. The remains of the wreath are undefined, and the object beneath the horse has assumed a stellar form instead of a circle, which in turn was a helmet in the prototype.

Figs. 4–7. These coins are cast and not stamped. In some specimens noted by Doctor Evans the grain of the wooden mold is distinctly visible. The obverse in all bears a head in imitation of some petroglyphic remains in North America, though the reverse shows the outline of an animal believed to be a horse.

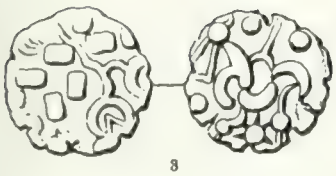
Fig. 8. This specimen has a laureate bust without any signs of a face; the open crescents are connected by a serpent line. The reverse bears a horse with a triple tail and a wheel beneath the body.



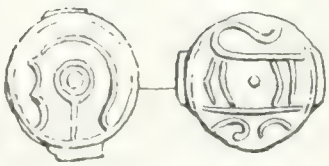
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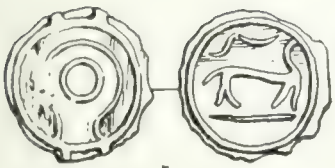
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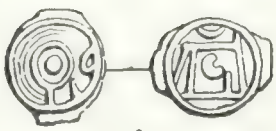
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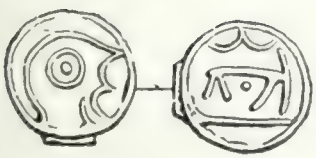
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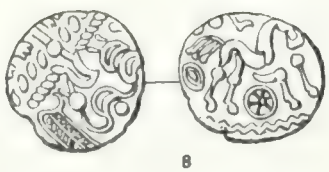
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6



7



8

COINS OF BRITONS AND GAULS.

plate 46, fig. 1. Very interesting indeed are the coins of tin—or an alloy in which that metal is in excess—though these are believed to be Gaulish rather than British, although the head of the Philippus prototype is rudely reproduced, while the animal upon the reverse is believed by Doctor Evans to represent a bull rather than the horse. Plate 47, figs. 4, 5, 6, and 7.

The human head upon the obverse is the rude representation of that part of the body, the face being indicated by two crescents, one above the other, with the concave side outward. The eye consists either of a simple ring, a nucleated ring, or the latter attached to a stem which extends down toward the neck. The animal form upon the reverse is readily determined by comparison with other coins showing variants.

The two characters beneath the animal form on plate 47, fig. 4, appear to be a remnant of or to have been suggested by the exergual legend on the prototype on which the name, in Greek characters, of Philippus occurs.

On some of the British coins no trace of a legend remains, but in a few instances some apparently meaningless characters appear to have been introduced, clearly indicating that the engraver was aware of some legend upon his copy, but being unacquainted with its import or signification, introduced an equivalent in so far as ornamentation was concerned, following the custom of geometric decoration. Such an illustration is here reproduced on plate 46, figs. 3, 4, and 7. In other examples again, this style of zigzag decoration is omitted below the exergue line and a nucleated circle portrayed instead of a legend or other character, as in plate 47, fig. 1.

The wheel of the chariot, which is apparent in the prototype, is generally oval, sometimes elliptical, and in some of the British imitations a second wheel is placed upon any remaining otherwise vacant spot, such an illustration being reproduced on plate 47, fig. 3, while in plate 46, fig. 8, two wheel-like characters are introduced, one above the body of the horse and the other beneath, instead of the common nucleated ring. In examining the numerous examples of coins one finds too that the British engraver has introduced, instead of the figure of a charioteer, a number of disjointed pellets or rings, and short straight or curved lines, making it almost impossible to trace the original in this jumble of characters. In some instances these segregated dots and lines again appear to become readjusted, ultimately forming a charioteer in the form of what seems to be a winged figure of victory.

Similar unique and interesting imitations occur on the obverse of the British coins, in which the engraver's interpretation of the head of Apollo (or Hercules) is shown, sometimes as a fanciful cross, plate 47, fig. 1, and in other instances as an ear of grain, examples being shown in plate 46, figs. 3, 5, and 7.

In this use of the circles, nucleated rings, and other British or Gaulish symbols upon British coins, no evidence appears of the transmission

of such characters from Macedonia, from which the coins were obtained, and which furnished the designs upon the Philippus for the British and Gaulish engravers. Nevertheless, other of the Macedonian coins bear upon the reverse concentric rings, between which are serrations, so as to almost appear like circular saws of various sizes laid one upon the other, diminishing in size toward the upper or last one. On a coin of Herod I., bearing a Macedonian shield, while upon the obverse of the same piece is a helmet, with cheek pieces, surrounded by a legend. The helmet, which appears to form the chief emblem upon the piece, greatly resembles the smaller headpiece upon the obverse of the stater shown in plate 46, fig. 1.

Mr. Gardner,[1] in his paper on "Ares as a sun god, and solar symbols on coins of Thrace and Macedon," shows that the Macedonian shield is of astronomical pattern, and belongs specially to a deity who is worshiped as the sun, and the interior device of this shield on the coins of Herod I. is identical with that adopted as the whole type on certain coins of Uranopolis of Macedon.

The occurrence of circles to denote ring money is found in the Egyptian hieroglyphs, and it is barely possible that such characters upon obelisks, or in other petroglyphs, may have had some reference to ring money in the various countries with which the Egyptians were in commercial relations, extending possibly to Macedonia, Phœnicia, and other of the peoples of the northern shores of the Mediterranean.

The Egyptians used rings of gold and silver, and the Hebrew expression for the heaviest unit in weight, the talent, originally meant a circle. Gold rings, says Mr. Madden,[2] were also used as a means of exchange in Britain, in the interior of Africa, among the Norwegian sea kings, and in China disks with central perforations are employed. The brass cash is an illustration of the latter, and the sacred writings make frequent reference to rings of metal and strings of gold, the latter evidently being tied in bundles of certain specified weights and values.

Interesting as this subject may be, it would be inappropriate in the present paper to continue the study of types of rings and variants and their signification in the various localities throughout the world in which they occur as originals, and as the result of intrusion by intertribal traffic or otherwise.

The wooden tablet represented in plate 33 is reproduced from Doctor Stolpe's monograph, published in "Ymer,"[3] and illustrates one characteristic type of wood carving found in Polynesia, or, to be more exact as to location, in the Tubuai Islands. The circles are rather infrequent, but the triangular decoration is more common, and occurs upon various ceremonial implements and weapons in various forms and combinations. In some examples the designs are very complicated

[1] Num. Chron., new series, 1880, XX, quoted from Madden's Jewish Coinage.
[2] Coins of the Jews, F. W. Madden, London, 1881.
[3] Stockholm, 1890, fig. 16.

and elaborate, while in other instances, as upon a metal surface, the result is a mere zigzag, the result of using a narrow graver, and as it is pushed forward the tool is rotated from side to side.

The character of the material upon which decoration is attempted greatly influences the artistic result.

Some circles from eastern Turkistan, to which my attention was called by my friend Doctor Walter Hough, of the National Museum, resemble almost exactly those mentioned by Doctor A. B. Meyer, who presented some interesting illustrations of shields from the Bismarck Archipelago and New Guinea, upon some of which are several series of concentric rings (four) while some are nucleated with a solid spot and three surrounding rings.[1]

In his monograph on the whirring toy or "bull-rorer," Doctor J. D. E. Schmeltz[2] presents a number of illustrations from various localities, nearly all of which are ornamented. Two specimens from West Australia are of peculiar interest, from the fact of the recurrence of two figures shown on a Roman lamp from Carthage (plate 45, p. 816). The



Fig. 38.

GOLD BOAT FOUND AT NORS, DENMARK.

one specimen of these wooden toys is ornamented with five figures of concentric circles, the three middle ones having each five rings, while the flanking or end figures have each but four rings.

The other toy has upon one side three figures of rectangles, each figure consisting of a nest of five, one within the other, as in the construction of concentric rings. At either end are short curved lines. Such a coincidence—as it can be nothing more—is truly remarkable, especially as the Australian designs are not in exact accordance with the usual type of designs.

The district of Thisted, Denmark, contains many small grave mounds, from some of which unique finds have been obtained. One clay-vessel covered with a flat stone contained about one hundred small boats, the ribs and sailing of which are made of bronze bands bent around one another, while in the middle of these lie sheets of thin plates of gold whose corners overlap each other at the bottom of the boat and are bent around the bronze bands above, covering it. In the same manner

[1] Publicationen aus dem Kongl. Ethnog. Museum Dresden. X. 1895. Plate XVIII, figs. 3, 4, and 5.

[2] Das Schwirrholz. Hamburg, 1896.

the outside covering is effected.[1] Upon the side of the boat illustrated in fig. 38 will be observed two figures of concentric rings, a design so frequently met with in the prehistoric relics of Scandinavia.

A wooden dish,[2] found with other objects in a funeral ship, bears decorations consisting of concentric rings similar to the preceding.

Petroglyphs in abundance representing so-called cup stones, nucleated circles, and concentric circles of various numbers of rings, as high as five and six, and occasionally even more, occur throughout northern Europe, from Ireland, Scotland, and elsewhere in the British Isles, eastward throughout Scandinavia, Finland, and Russia, into Siberia.

In a petroglyph at Lokeberg, in Bohuslan, Sweden,[3] are represented a number of manned Viking ships, above three of which are portrayed nucleated rings, several of which are attached to projections connected with the vessel, and resembling uplifted banners or other emblems. In a number of instances are small spots only, without the surrounding circle. These circles in contact with vessels resemble very much the Eskimo engraved figures on the rod shown in another place on plate 68, fig. 6.



Fig. 39.

SAMOYAD ORNAMENT OF METAL.

Professor Oscar Montelius figures in his "Kultur Schwedens in Vorchristlicher Zeit" a gold vase nearly 3 inches in height and about 4 inches in diameter, about the body of which are four rows of concentric circles. The upper row, near the neck, consists of such raised figures each more than one-sixteenth of an inch in diameter, while the row a short [illegible]ce below this consists of rings averaging three-sixteenths of an inch across. Below the greatest diameter of the vessel is another row of raised concentric rings, the outer one measuring about five-eighths of an inch across, while the circles near the base, and extending in a row about it, are apparently a little less in diameter.

These rows of circles are separated by longitudinal raised lines, between some of which, both above and below the row of the largest circles, are short vertical lines presenting what appears like a milled edge.

This style of ornament is very general and, as noted elsewhere, of widespread occurrence.

Mr. Frederick George Jackson, in his description of the jewelry of the Samoyads,[4] says that the bonnet is adorned with tails of colored

[1] Quoted from Report of National Museum for 1891, 1892, pp. 557, 558, fig. 41. (Prehistoric Naval Architecture, Geo. H. Boehmer.)

The reader is referred to an interesting paper on *Origins of Prehistoric Ornament in Ireland*, completed in Part I of Vol. VII, of the Journal of the Royal Society of Antiquaries of Ireland, for 1897, by Mr. George Coffey.

[2] Report of the United States National Museum for 1891. 1892, p. 594, fig. 108.

[3] Oscar Montelius, Die Kultur Schwedens in Vorchristlicher Zeit, Berlin, 1885, p. 73, fig. 87.

[4] The Great Frozen Land. London, 1895, p. 67.

EXPLANATION OF PLATE 48.



Fig. 1. EAR PENDANT.
(Cat. No. 36845, U. S. N. M. Kuskunuk. Collected by E. W. Nelson.)

Fig. 2. EAR PENDANT.
(Cat. No. 36846 [7], U. S. N. M. Big Lake, Alaska. Collected by E. W. Nelson.)

Fig. 3. EAR PENDANT.
(Cat. No. 36845, U. S. N. M. Kushkakwin River. Collected by E. W. Nelson.)

Fig. 4. EAR PENDANTS.
(Cat. No. 36839, U. S. N. M. Lower Kushkakwin River. Collected by E. W. Nelson.)

Fig. 5. EAR PENDANT.
(Cat. No. 48742, U. S. N. M. Yukon River. Collected by E. W. Nelson.)

Figs. 6, 7. EAR PENDANTS.
(Cat. Nos. 36845, 36846, U. S. N. M. Kuskunuk. Collected by E. W. Nelson.)

Fig. 8. EAR PENDANT.
(Cat. No. 38416, U. S. N. M. Big Lake, Alaska. Collected by E. W. Nelson.)

Fig. 9. POWDER CHARGER.
(Cat. No. 127460, U. S. N. M. Ikalulik. Collected by J. Applegate, U. S. Signal Corps.)

Fig. 10. EAR PENDANT.
(Cat. No. 38169, U. S. N. M. Nulukhtulugumut. Collected by E. W. Nelson.)



ORNAMENTED IVORY JEWELRY.

strips of cloth, to which are attached "brass disks (about 3 inches in diameter) and other ornaments, such as brass charms, beads, and buttons." It is probable that these materials are specially made in Russia for trade with the natives; nevertheless the nucleated circle is an important feature in ornamentation thereon, the metal pendant, of which an illustration is given in fig. 39, being not only very similar to the prehistoric ornaments of Scandinavia, but is decorated in the same manner.

Mr. Jackson says furthermore: "While I am talking about Samoyad jewelry, I might mention the vast buckles sometimes used to fasten the belt. They are made of brass, stamped out with patterns, and are often 9 inches in diameter. Of brass, too, and copper are their rings; and they even wear reindeer bells, each weighing at least half a pound, hanging from their elbows."

It is but natural to suppose that native art is thus stimulated, and influenced, by the probable introduction of materials of foreign manufacture, such trinkets being gaudily decorated to add to their attractiveness in the estimation of the uncultured natives.

DECORATION OF PERSONAL ORNAMENTS, UTENSILS, ETC.

The utilization of various figures to apply simply for ornamentation is very common, and is of later date than the incision of simple lines and dots. The animate and other characters do not seem to have been used in any æsthetic manner until the system of pictography had gained a firm foothold. Numerous examples are here given of simple decoration of drill bows, for which no other record was ready, and of the various styles of decorating articles of primitive jewelry or personal ornaments, and other objects of daily use.

The following list comprises a number of selections to illustrate the various methods of decorating articles of personal use or adornment, utensils of daily use, and other objects.

A number of ear pendants are represented in plate 48, figs. 1–8 and 10. The chief interest lies in the variety of ornamentation, consisting of drill holes, circles, concentric rings, and in one instance serrations are attached to the circles.

The cup-shaped specimen shown in fig. 9 is a powder charge, ornamented with conventionalized figures of flowers, fruit, etc., to which special attention is given in connection with conventionalization.

Plate 32, fig. 1, represents ear pendants made of beluga teeth. They were obtained at St. Michaels, and are ornamented with the zigzag pattern frequently alluded to as the "fish trap" pattern. This pattern is quite neatly made and presents an unusually pleasing effect. Upon the bare space between the two transverse rows of ornamentation is incised a small cross—a figure quite unusual in Eskimo art.

Plate 32, fig. 2, represents a buckle or ornament used by girls in securing the hair. The decoration represents a face, the eyes being

indicated by sharply incised lines, while the pupils are perforations made with a drill. The nostrils are also indicated with delicate perforations, and the teeth are well defined. The lips are also well defined by means of transverse lines representing the gums and the edges of the teeth, while the other lines drawn vertically denote the spaces between the teeth.

Plate 32, fig. 4, represents a comb from Cape Prince of Wales. This is of peculiar interest from the fact that it exactly represents in outline specimens from Torres Strait. The ornamentation resembles Papuan art designs, and also the peculiar meander or zigzag pattern referred to in plate 33.

On the inner space are three ornaments which represent the conventional tree symbols. The specimen is an old one, as may be observed from its past usage and discoloration. The teeth are broken and appear to have been short. They were no doubt made by sawing with instruments such as are shown in plate 17.

Plate 49, fig. 4, represents a pair of earrings secured in a stick. Upon the front are ornamental incisions representing concentric rings, from four sides of which extend short lines terminating in perforations. In one of these, however, the short connecting lines were not inserted—this part of the operation having evidently been neglected.

Upon the reverse are short projections which are carved so as to curve downward, forming an Γ-shaped hook for insertion in the lobe of the ear.

Plate 49, fig. 5, shows a similar stick with wrapping so as to secure a number of earrings which have been inserted, and in which manner they are transferred from place to place for sale or for barter.

Plate 50 represents a series of carved ivory belt buttons and pendants, as well as two spear guards for attachment to a canoe. On fig. 1 is shown the crude meander or zigzag so frequently referred to. Upon the outer surface of these figures appear small tridents which represent trees, or rather they may be termed the conventional ornamental figure evolved from the tree figure or tree design. A simple meander or triangle is shown upon the button in plate 50, fig. 2, in which, it will be observed, the meander is produced by the interdigitation of short lines attached to the parallel lines within which the meander crosses.

Figs. 3, 4, and 6 have circles with various decorations, that upon fig. 4 being perhaps the flower symbol, described elsewhere in detail.

The ivory button shown in fig. 5 is decorated by simple perforations, each of which is filled with a wooden peg, the arrangement of the perforations being regular and symmetrical.

Plate 51 illustrates six forms of bone belt fasteners or toggles. The specimen shown in fig. 1 was collected by Mr. L. M. Turner at Norton Sound, and measures 2⅛ inches across. Within the upper and lower margins are five horizontal incised lines, while along the vertical edge there are but four each. Upon the inner line and directed inward are

EXPLANATION OF PLATE 49.

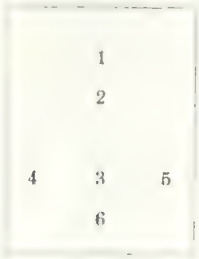


Fig. 1. IVORY IMPLEMENT.
(Cat. No. 37664, U. S. N. M. Konigunogumut. Collected by E. W. Nelson.)

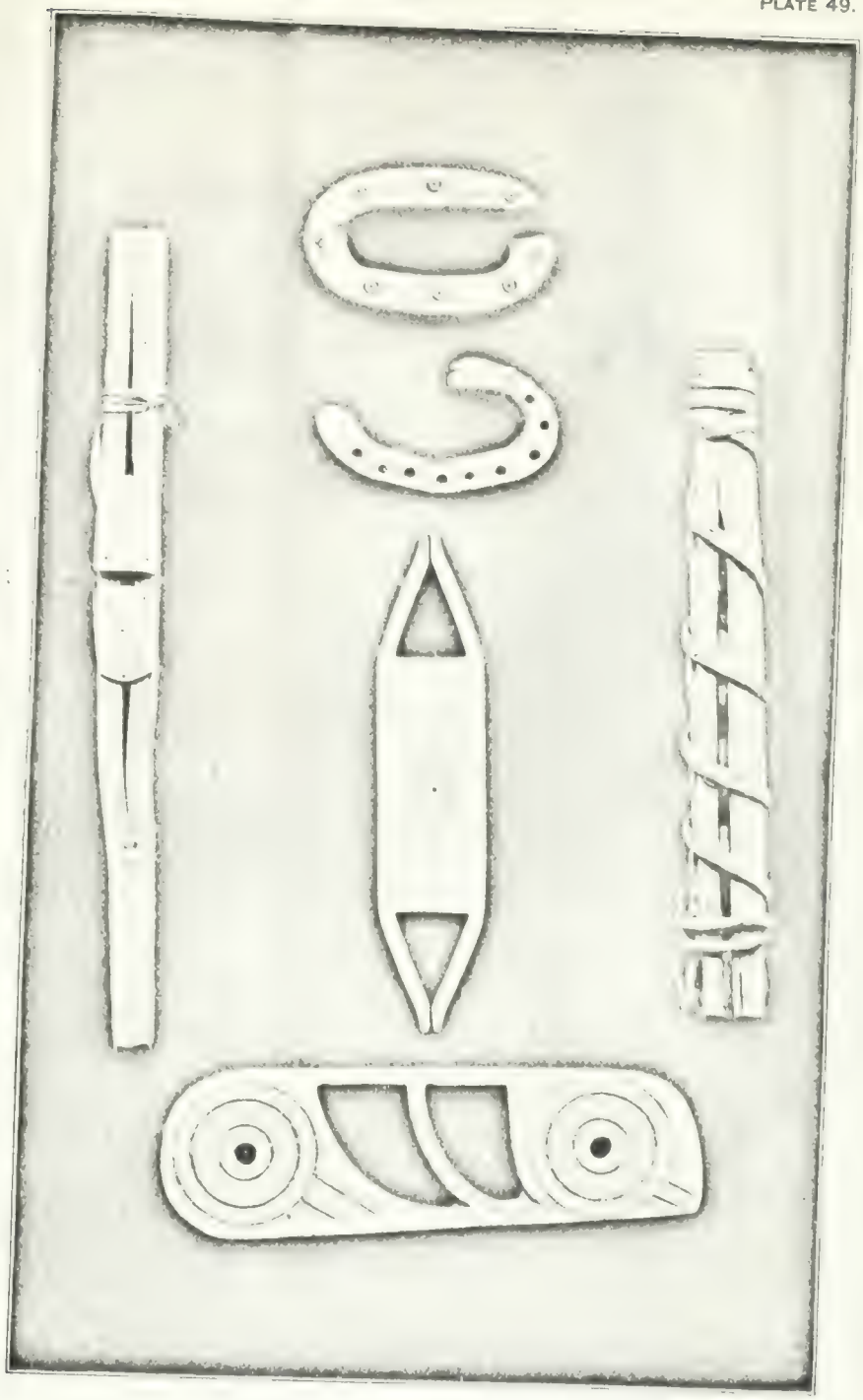
Fig. 2. IVORY IMPLEMENT.
(Cat. No. 29618, U. S. N. M.)

Fig. 3. NET SHUTTLE.
(Cat. No. 35908, U. S. N. M. Aleutian Islands. Collected by L. M. Turner.)

Fig. 4. EARRINGS IN WOODEN HOLDER.
(Cat. No. 36861, U. S. N. M. Aakenuk. Collected by E. W. Nelson.)

Fig. 5. EARRINGS IN WOODEN HOLDER.
(Cat. No. 36011, U. S. N. M. Agaiyukchugumut. Collected by E. W. Nelson.)

Fig. 6. IVORY ORNAMENT FOR ALEUT HAT.
(Cat. No. 38720, U. S. N. M. Collected by E. W. Nelson.)



DECORATED ORNAMENTS AND UTENSILS.

EXPLANATION OF PLATE 50.



Fig. 1. CARVED BELT FASTENER.
(Cat. No. 38567, U. S. N. M. Mouth of Lower Yukon River. Collected by E. W. Nelson.)

Fig. 2. CARVED BELT BUTTON.
(Cat. No. 34633, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 3. BELT BUTTON.
(Cat. No. 38093, U. S. N. M. Chalitmut. Collected by E. W. Nelson.)

Fig. 4. BELT BUTTON.
(Cat. No. 37761, U. S. N. M. Kongigunogunut. Collected by E. W. Nelson.)

Fig. 5. BUTTON.
(Cat. No. 48630, U. S. N. M. Kotzebue Sound. Collected by E. W. Nelson.)

Fig. 6. BELT ORNAMENT.
(Cat. No. 38152, U. S. N. M. Lower Yukon. Collected by E. W. Nelson.)

Fig. 7. SPEAR GUARD FOR KAIAK.
(Cat. No. 35983, U. S. N. M. "Sfugunugumut." Collected by E. W. Nelson.)

Fig. 8. SPEAR GUARD.
(Cat. No. 43536, U. S. N. M. Cape Vancouver. Collected by E. W. Nelson.)



IVORY BUCKLES AND PENDANTS.

EXPLANATION OF PLATE 51.



Fig. 1. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 24664, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

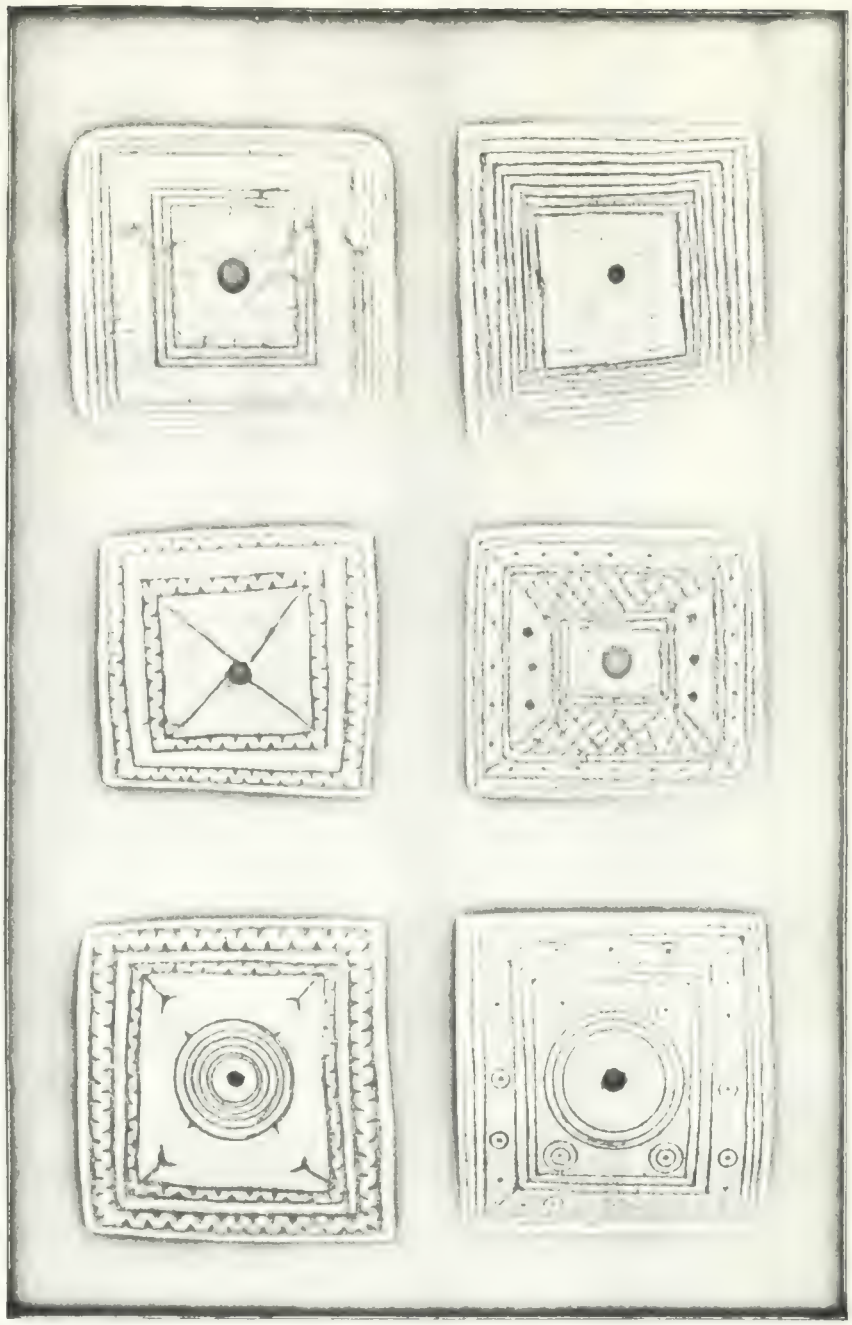
Fig. 2. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 24616, U. S. N. M. Norton Sound Collected by L. M. Turner.)

Fig. 3. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 24612, U. S. N. M. Norton Sound Collected by L. M. Turner.)

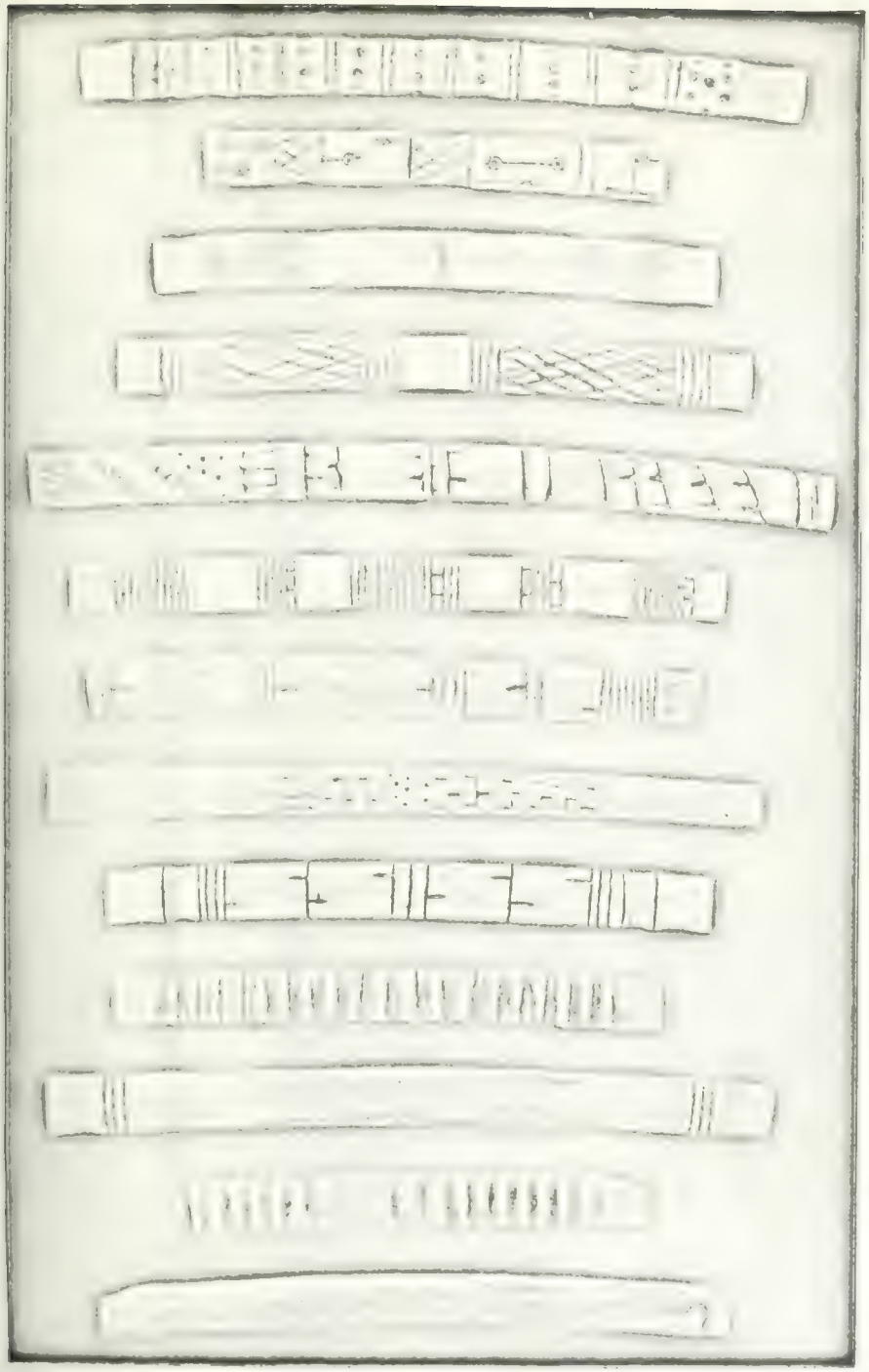
Fig. 4. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 37992, U. S. N. M. Pinuit. Collected by E. W. Nelson.)

Fig. 5. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 24663, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 6. BELT FASTENER, TOGGLE OR BUCKLE.
(Cat. No. 5622, U. S. N. M. Premoraska. Collected by W. H. Dall.)



IVORY BUCKLES OR TOGGLES.



SNUFF TUBES AND NEEDLE CASES.

short incisions, each one-sixteenth of an inch in length. Surrounding the central perforation is a quadrilateral figure conforming to the outline of the ornament, consisting of three incised lines one-sixteenth of an inch apart. Upon the inner sides of the square are similar short lines directed upward toward the interior, as upon the inner line of the outer square.

In plate 51, fig. 2, also from Norton Sound, the ornamentation consists of eight lines running parallel with the four outer borders, the interior space about the central perforation being blank.

In plate 51, fig. 3, also from Norton Sound, the ornamentation becomes a little more complex. The two sets of parallel lines around the interior form a square. Within each set of lines thus drawn are markings so placed as to form a crude zigzag resulting from the short lines projecting alternately outward and inward by a process resembling what might be termed interdigitation. This has some resemblance to or suggests the Papuan patterns, to which reference is made elsewhere. The interior space about the central perforation is ornamented by two lines forming a cross.

In plate 51, fig. 4, there is shown a buckle from Pinuit, Alaska, and both lines and dots are employed in ornamenting the surface. The squares are present as in the preceding record, while small perforations occupy the space between the groups of lines.

In plate 51, fig. 5, from Norton Sound, the outer border consists of two decorated figures, while surrounding the central perforation are six concentric rings, four short lines diverging from the outer ring toward the outer angles of the ornament. From the inner angle of the inner quadrilateral figure are four short lines, each terminating in a V-shaped figure, or bifurcation, rudely resembling the conventionalized whale tail, though in this instance more likely denoting a tree, as it also represents a conventionalized tree figure.

In plate 51, fig. 6, from Premorska two series of lines are drawn, with the difference, however, that instead of bearing additional ornamentation between the two quadrilateral figures the ornamentation consists of nucleated circles, three upon each side, while within the inner square and surrounding the central perforation are three concentric rings. The space beyond the outer ring and the angle of the inner square is filled with small figures consisting of a spot surrounded by two concentric rings.

Upon plate 52 are shown thirteen figures of needle cases or snuff tubes, upon which are shown various styles of ornamentation. The specimen at the extreme left, from the Lower Yukon, is octagonal, while the next shows a series of rings produced by filing, as in the fourth figure, and to a certain extent in the last. The encircling bands upon figs. 5, 6, 7, 8, and 9 illustrate in various ways the rudimentary forms or originals from which have developed that peculiar meander or zigzag to which reference is made in various places and in various

connections, and which has been compared to a certain degree with the Papuan ornamentation referred to by Mr. Alfred C. Haddon. Upon the two figures at the right hand are a series of small, nucleated rings, and particularly in fig. 12 are shown several instances in which these rings are surrounded by radiating lines, a bottom line extending to a transverse base line or attached to another nucleated circle of like form. These may be related to the flower symbols, to which Mr. Lucien M. Turner makes reference in the letter which I have quoted.

Plate 35, fig. 9, shows a tobacco box from Sledge Island. It is a rude imitation of a seal, a small opening being cut in the neck, while the rear end was at one time undoubtedly closed by means of a wooden plug. The ornamentation throughout consists of parallel lines between which the incisions of short transverse lines are so arranged as to indicate the rude meander or zigzag pattern. Upon the back are several conventional tree patterns.

Plate 25, fig. 1, represents an ivory casket from St. Michaels. It is made of the upper hollow portion of a walrus tusk and is very profusely illustrated with the zigzag pattern, borders of which encircle the specimen both above and below, while around the center is an almost continuous pattern of six nucleated circles, each connected with the other by means of continuous strips or zigzag ornamentation. Between the two outer rims of each of these ornaments we find the fish trap pattern, in some the plain zigzag, in another short transverse lines, etc., showing various degrees of ornamentation of the same general type. Radiating from the outer circles of all the specimens are short vertical lines at four opposite points, in imitation of the flower symbol. On the remaining spaces between this central ornamentation and the two outer margins are rows of small circles similarly ornamented within by concentric rings and upon the outside by radiating lines.

The round box illustrated in plate 34, fig. 3, is from Norton Sound. This was used for holding fishing tackle. The top and bottom are made of wood, while the circular band is made of a flat piece of reindeer horn securely lashed together at the joints by means of two iron and one copper clasp attached longitudinally. The surface of this band of horn is very neatly ornamented around the upper portion in zigzag pattern, while the corresponding border below has been left plain. Between these two borders, however, are a series of figures of concentric circles very neatly incised and arranged alternately, first a large circle, then two small ones. Each of these figures is furthermore ornamented by four radiating lines resembling the flower symbol, although from the great number of concentric circles within it there is suggested rather the idea of the symbol used to denote the nests of kantags or wooden buckets obtained by barter from the Chukchi of the Asiatic side.

Plate 35, fig. 5, represents a bone "mouthpiece" from Diomede

Island. The ornamentation upon this is rude and deeply incised, consisting of a base line of two parallel incisions, between which is the rude meander or zigzag, to the top of which are incised at regular intervals trident figures representing the conventional tree symbol. Similar incisions and markings appear also upon a larger specimen from the same locality, shown in fig. 7.

Plate 32, fig. 5, shows a specimen without any indication to mark the locality from which it was obtained, although from its association with the collections from Alaska it may be inferred that it was made by some one of the native tribes, very likely the southern or southeastern natives, who have intermarried with the Thlingit, or possibly the Thlingit themselves, although the carving very greatly resembles that copied after the work of the Haida. In almost any position in which the specimen may be held faces appear. Upon the lower side is the representation of a face the expression of which is exactly like that in fig. 3, while the front or rounded portion of the ornament shows a perfect snake's head, though this was probably intended to represent a seal. The ornament appears to have been used for attachment to the end of a cord, probably in harness or on some weapon.

Plate 13 represents three figures of bone seine shuttles or handles from the Yukon River. The ornamentation upon fig. 1 is very simple. It consists of diagonal lines between two horizontal ones, with the exception of a small space about the upper third, where half a dozen lines cross at the opposite angle. Upon fig. 2 the lines are closer together, and in the lower figure very short lines are attached so as to extend at right angles from their respective base lines. These are of that primary type forming the base of the "fish weir" or "fish trap" pattern, which in turn forms the base of the rude angular meander and ultimately of the zigzag, to which reference is made elsewhere.

In fig. 3 the ornamentation consists first of two horizontal parallel lines extending along each outer border. Between each pair of lines are short lines forming zigzags. The interior spaces are filled with other patterns. At the upper end is an animal, apparently representing a wolf, with the life line upon the body, while at the lower extremity is the outline of a beaver. At the two small triangles formed by the cross lines at the middle of the specimen are two small trees, simply decorative, and intended to fill the blank space.

Plate 49, fig. 3, represents a very beautiful net shuttle obtained in the Aleutian Islands by Mr. L. M. Turner. The only ornament of any consequence on this represents a figure of concentric rings, from which radiate eight delicate lines. This is probably a highly conventionalized figure of the flower symbol, though in the pictography of the Ojibwa and some of the Shoshonian tribes it would denote the symbol of the sun.

The superiority of the workmanship is apparent, and is characteristic of that of the southern Alaska, or rather the Aleutian, natives.

Plate 23, fig. 1, represents a reel for sinew for small nets, obtained

at Cape Vancouver, Alaska, by Mr. E. W. Nelson. The specimen is made of bone, and is decorated with incised lines extending from point to point along either edge, with interior markings of short lines, as shown on the specimen.

Plate 23, fig. 4, represents a fishing implement made of reindeer horn. It is slightly curved and forked at either end, three of the four ends terminating in heads, probably that of the seal. The chief decoration consists of a median line extending from end to end, to which are attached several pairs of characters representing the herring bone pattern, though with the addition of short outer lines.

The perforation visible in the center is intended for holding a drill.

Plate 35, figs. 1, 2, and 3, represents small ivory thimble holders or guards. The ornamentation upon these is different, that upon fig. 1 and fig. 2 consisting, respectively, of simple borings or depressions and concentric rings, while upon fig. 3 appears a continuous line, to which are attached several pairs of short oblique radiating lines, as in plate 29, fig. 1.

Plate 35, fig. 4, represents a seine thimble holder from Kushunuk. This is a rude outline of a seal with the young placed transversely to its back, while the ornamentation consists of several sizes of concentric rings, two of which show radiating lines attached to the outer surface.

Plate 35, fig. 6, represents a thimble guard from Unalakleet. The ornamentation upon this is in imitation of that from the Northwest Coast northward from Kotzebue Sound, and consists almost exclusively of various patterns of the zigzag or meander design.

Plate 23, fig. 3, is marked in the catalogue as a bone grass comb, from Kotzebue Sound. Mr. Murdoch, who has examined the specimen in my presence, believes it to be simply an ordinary comb for personal use. The ornamentation is divided into two panels, separated by four parallel transverse lines, each about one-eighth of an inch from the other. Short lines, placed closely side by side, radiate from the inner lines toward the outer. These inner lines with short radiating lines are reproduced at either end of the specimen. Reference to the illustration will more clearly represent this. In the upper panel is the portrayal of a whale, with some other lines probably intended to denote whales, but the figures were not completed. There is also a depression, which was used for the insertion of the top of a drill. The lower panel contains several pairs of parallel lines, between which is the rude outline of a steamboat representing a revenue cutter.

Plate 49, figs. 1 and 2, represents ivory implements, probably used in connection with harness. The former is decorated with a series of nucleated rings, all of one size and apparently made with the same instrument, while on the latter the rings are replaced by simple perforations, some of which are about one-eighth of an inch in depth and were subsequently filled with a hard gummy substance. The most of them have now become emptied of this material.

The representation of the two snow shovels, fig. 40 *a* and *b*, is to indicate the manner of attaching the ivory cutting edges upon which some of the engravings described are found. The wooden portion is generally made of spruce; the several pieces comprising the shovel, as above shown, are secured together by means of sinew braid. They are used for all kinds of shoveling in the snow, and sometimes for excavating in snowdrifts, for making pitfalls for game, etc. The edge of the wood is fitted with a tongue into a groove in the top of the ivory edge, which is 1½ inches deep. It is fastened on by wooden treenails at

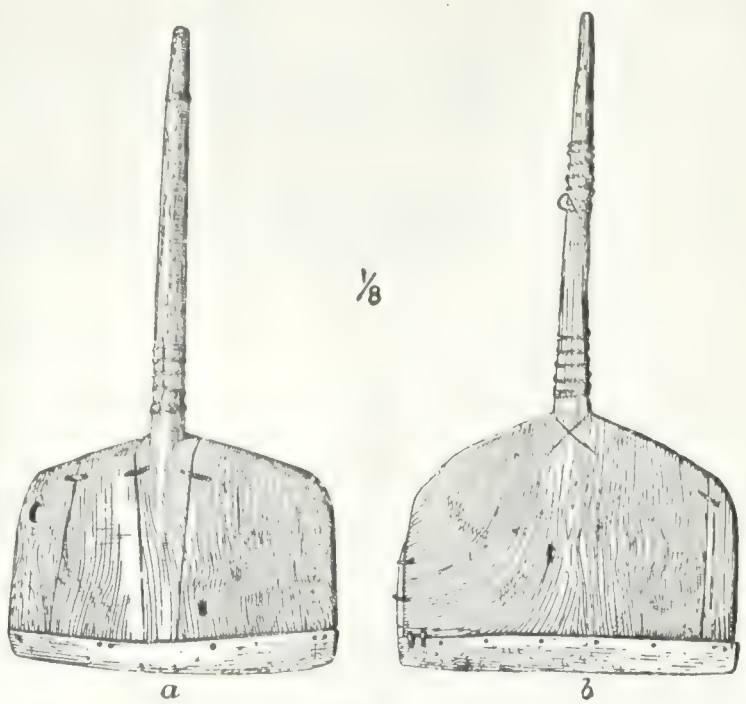


Fig. 40.
SNOW SHOVELS.

irregular intervals, and at one end, where the edge of the groove has been broken, by a stitch of black whalebone. * * * The whippings of sinew braid on the handle are to give a firm grip for the hands.[1]

Fig. 41 is a fanciful object "made solely for the market." The specimen measures 2.6 inches in length, and is made of an ivory head fitted into a handle of wood painted red. "The head was called a 'dog,' but it looks more like a bear. Small bits of wood are inlaid for the eyes, and the outline of the mouth is deeply incised and colored with red ocher, having bits of white ivory inlaid to represent the canine teeth.

[1] Ninth Annual Report Bureau of Ethnology, 1887–88. 1892, p. 306, fig. 386, *a* and *b*.

The ears, nostrils, vebrissæ, and hairs on the muzzle are indicated by blackened incisions. There is an ornamented collar round the neck, to which is joined a conventional pattern of triangular form on the throat and a somewhat similar pattern on the top of the head between the ears."

Ornamentation of utensils is carried on to an almost unlimited degree, and the simple nucleated circle occurs very frequently, in fact in preference, in some portions of Alaska, to the arrowhead and herringbone designs.

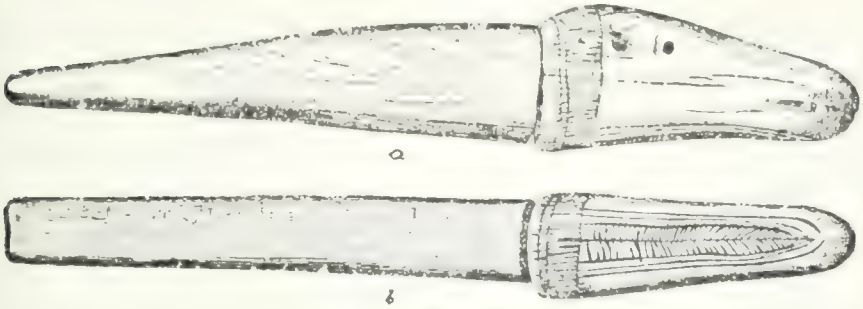


Fig 41.

DECORATED IVORY CARVING.

Point Barrow.

From Point Barrow we have a twister for working the sinew backing on bows, upon one side of which is a row of conspicuous nucleated rings.[1] The specimen is of ivory, and measures 5.4 inches long. It is one of a pair, as two pieces constitute a set.

In fig. 43 is represented a good example of a native dipper made of fossil ivory. The decoration along the top of the straight flat handle and around the upper part of the outside of the bowl consists of nucleated circles. These were originally colored with red ocher, but are filled with dirt, while those upon the handle are, to a great extent, almost effaced by wear.

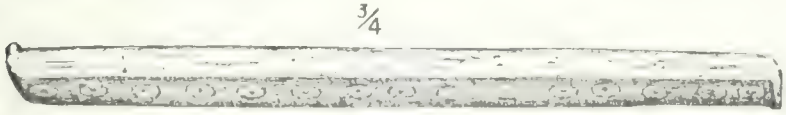


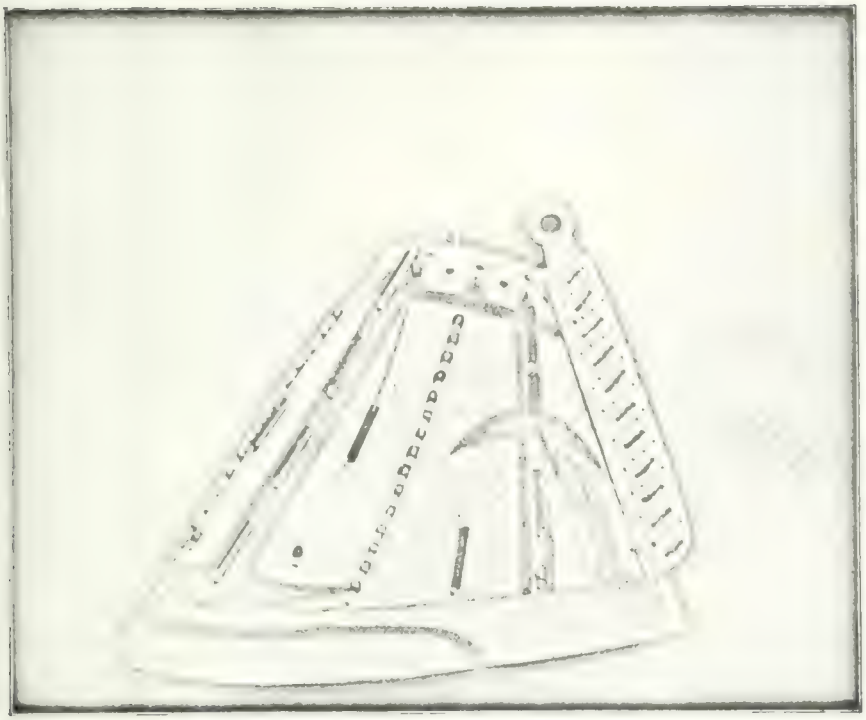
Fig. 42.

TWISTER FOR WORKING SINEW BACKING OF BOW.

Upon fig. 44, representing a knife with a handle made of reindeer antler, occur a number of lines of nucleated circles connected by short lines. The ornamentation extends horizontally along the top and sides, the incisions having originally been colored with red ocher, but at present contain more dirt than ocher.[2]

[1] Ninth Annual Report Bureau of Ethnology, 1887–88. 1892. p. 292, fig. 286.

[2] Idem, p. 173, figs. 113 and 114.



DECORATED HUNTING HAT. KATMAI ISLAND, ALASKA.

Another interesting specimen of workmanship, bearing ornamentation of the same character as the preceding, is shown in fig. 45, and consists of a chisel. The small blade has an oblique tip, not beveled to an edge, and is hafted in walrus ivory, yellow from age. The nucleated rings are colored with red ocher, and the two halves of the handle are fastened together by a stout wooden treenail and a stitch of whalebone.[1]

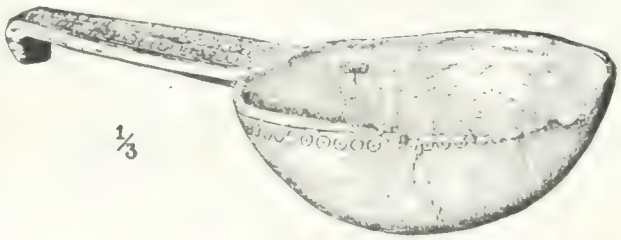


Fig. 43.

DIPPER OF FOSSIL IVORY.[2]

The accompanying illustration of the foreshaft of a seal dart, fig. 46, is given, reproduced from the report on the natives of Point Barrow.[3] The ornamentation is confined almost wholly to the nucleated circles, the only animate object portrayed being a deer. It is said that some of these shafts are highly ornamented, the figures being all incised and colored, some with ocher and some with soot.

The specimen shown on plate 53 represents a decorated hunting hat from Katmai Island, Cooks Inlet, Alaska, and was collected by Mr. W. J. Fisher.

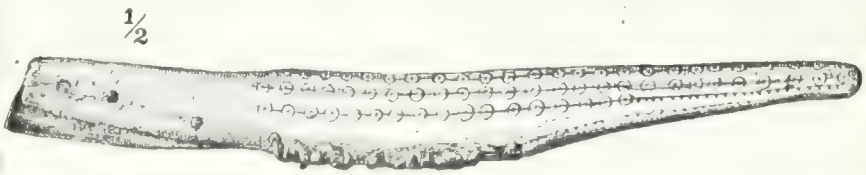


Fig. 44.

LARGE KNIFE WITH ORNAMENTED HANDLE.

This variety of head covering is common to the natives of the islands of Kadiak and those occupied by the Aleuts. This specimen is made of wood shaved down until the average thickness is only about one-fourth of an inch, while the height along the front, from the top to the bottom of the visor, is $9\frac{1}{16}$ inches. The color in chief is of white; the horizontal band about the bottom, flesh color; the remaining vertical stripes in front and about the top, and downward through the crescent-

[1] Ninth Annual Report Bureau of Ethnology, 1887–88. 1892, p. 173, figs. 113 and 114.
[2] Idem, fig. 42, p. 103.
[3] Idem, p. 217, fig. 204.

like figure, black. The interior spaces between the black lines just named are filled in with dark or dirty vermilion.

Beads of dark blue, black, and white constitute portions of the decorations, while the projecting lines denote the application of sea-lion bristles, over several of which beads have been slipped.

The chief purpose of here representing the specimen is to show the place of attaching the decorated bone ornaments illustrated on plate 52. The strips of bone are but one-eighth of an inch in thickness, yet there are a number of perforations along the top curve and outer edge, in which were inserted bristles secured by small wooden pegs.



Fig. 45.
CHISEL, WITH DECORATED HANDLE.

The ornamental slab of bone attached to the right side of the hat is decorated with oblique grooves, about one-half an inch apart, between which are rows of dots or complete perforations.

Upon the left side of the hat the bone slab was split from near the top to the bottom, while the diagonal grooves were utilized to carry threads beneath the level of the outer surface to hold together the pieces from completely separating.

Upon the upper part of the back of the hat are two arrowheaded ornaments, each $1\frac{3}{4}$ inches in length and projecting at right angles from the wooden base, each being decorated with nucleated rings, those on the central rows of four each measuring three-sixteenths inch in diameter, while the outer rows of three rings each are but one-eighth of an inch each.

The two ends of the piece of which the hat is made are held together by means of a piece of wood $5\frac{1}{2}$ inches long and less than an inch in width, placed horizontally at the back and bearing perforations along the central line, through which a sea lion's whisker has been passed in imitation of stitching, thus securing the ends with a perfectness to almost resemble a continuous piece of wood.

The decorations vary according to the owner's skill and taste, and are used in canoe trips to protect the eyes from the glare of light and to permit more intent gazing for the marine animals sought.



Fig. 46.
SEAL DART.

In plate 54 are three examples of Eskimo bone carving, the outer ones being charms and ornaments for attachment to the hunting hats, an illustration of which, together with the method of attachment, is shown in plate 53.

The specimen at the left of the plate, as viewed by the reader, was collected by Mr. E. W. Nelson at Shaktolik. It is of bone, and is deco-

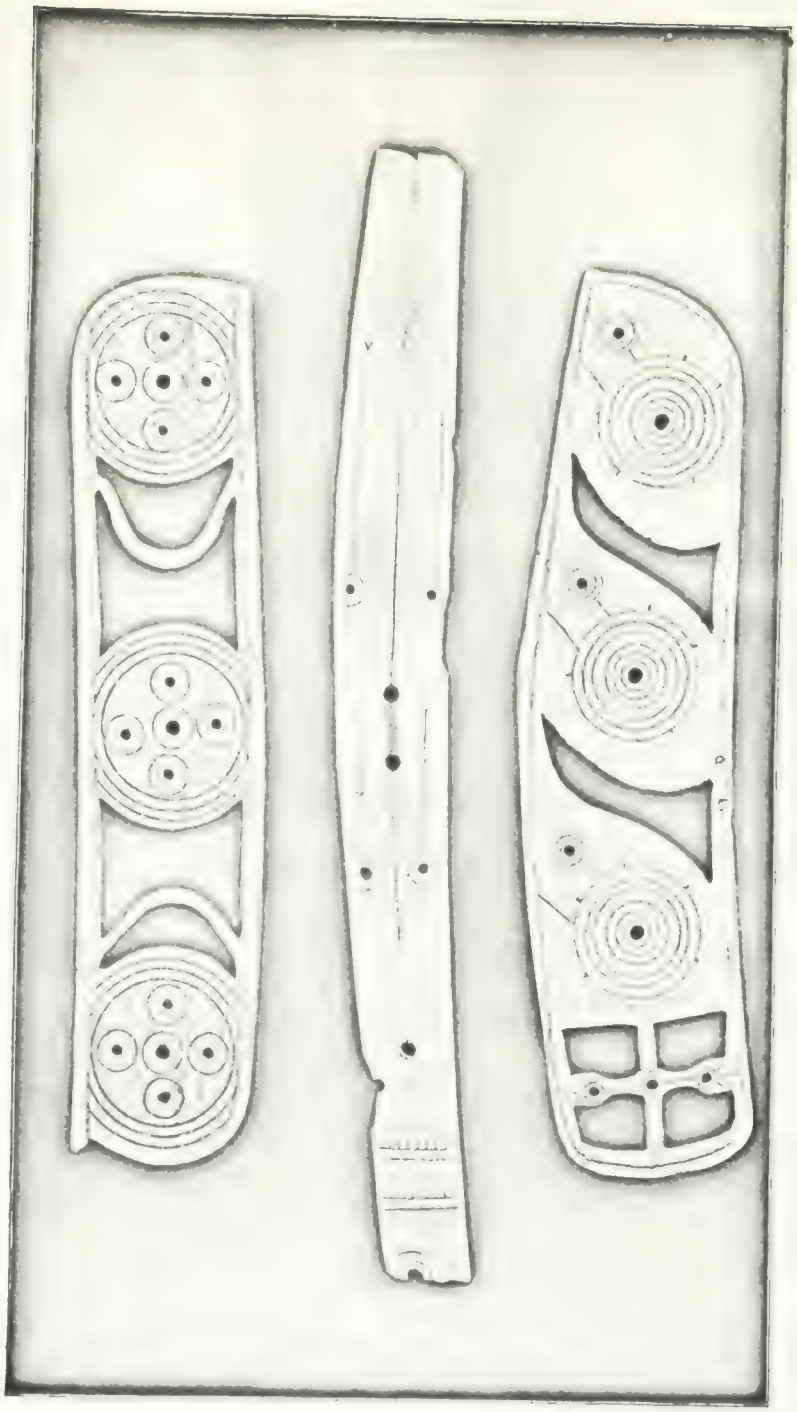
EXPLANATION OF PLATE 54.



Fig. 1. HAT ORNAMENT.
(Cat. No 24703, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 2. HAT ORNAMENT.
(Cat. No. 5604, U. S. N. M. Premoraka, Yukon River. Collected by Thomas Dennison.)

Fig. 3. HAT ORNAMENT.
(Cat. No. 43808, U. S. N. M. Shaktolik. Collected by E. W. Nelson.)



HAT ORNAMENTS OF BONE.

rated with three round pieces connected above and below by permitting the original bone to remain intact while the intervening portions were removed. The disks are each ornamented with five nucleated circles, the central spots being perforations of uniform diameter. Among these rings are three incised lines, darkened by dirt.

The specimen at the right side of the plate is from St. Michaels, Norton Sound, and was collected by Mr. L. M. Turner. The specimen is also of bone, and the decorations are alike on either side. This also is a charm for use on hunting hats.

The specimen in the center of the plate is of thin strip of bone, to be used for a similar purpose as the two preceding in ornamenting hunting hats. The specimen is marked "National Museum, No. 5604, Premorska, Yukon River," and was collected by Thomas Dennison. The nucleated circles upon the specimen have running upward straight lines, bifurcated at the top in imitation of one variety of the tree symbol, while midway between the top and bottom are like projecting lines as at the top. At the lower extremity of the specimen is a simple form of decoration, consisting of a horizontal line from which short lines are projecting.

Plate 7 represents three forms of ivory arrow and spear straighteners from three different localities and bearing different forms of decoration. The specimen at the left side of the plate was collected by Mr. E. W. Nelson at Diomede Islands, a locality occupying a position midway between the American and Asiatic continents. It measures 8⅛ inches in extreme length, 1⅜ inches across the widest part, and has an average thickness of five-eighths of an inch. The perforation with which the weapons to be straightened are held is at an angle of almost 45 degrees, as compared with the plane of length of the piece.

The rear or convex part is plain, but upon the slightly concave front is an engraving of a reindeer. The lines seem to be partly filled in with dirt, the result of use, and not with black coloring matter placed there with intention to intensify the sketch.

The slight depression which appears lower down upon the handle is intended to be used in drilling, the top of the drill being held vertical by being inserted in the cavity, while the opposite end may be intended for drilling holes, or for fire making.

Another specimen is that at the right, also collected by Mr. Nelson, though at Cape Darby. This specimen, intended for similar service as the preceding, is shaped like the body of a deer with the doe's head at one end, while the eyes are two blue beads neatly inserted in holes. Like the preceding, some traces of hunting records are retained, the incisions in several places being almost obliterated by long-continued use. At one place a native is represented as directing a gun toward a reindeer, while in front of the latter are several lines indicating that another specimen of the same species was to be engraved, but not completed. Almost beneath the hunter is a rectangular figure, to one

end of which is attached a mammal, which, though relatively small, appears to represent a bear.

Upon the opposite side of the specimen, which is brownish yellow from age, are a number of delicate lines, some of which clearly portray habitations, a tree, two men, and a sledge with two dogs.

Along the back of the specimen, representing the spine of the animal imitated, are two parallel lines extending backward toward the lozenge-shaped perforation used for straightening weapons. The perforation, as in the preceding example, is also cut through at an angle, though only about 12 or 15 degrees variance from the line of the longest diameter. The entire length is 4¾ inches.

The middle specimen is from Nubriukhchuguluk, and was secured by Mr. Nelson. The form is greatly like that of a common steel carriage wrench. It is made of bone, and the four sides of the handle

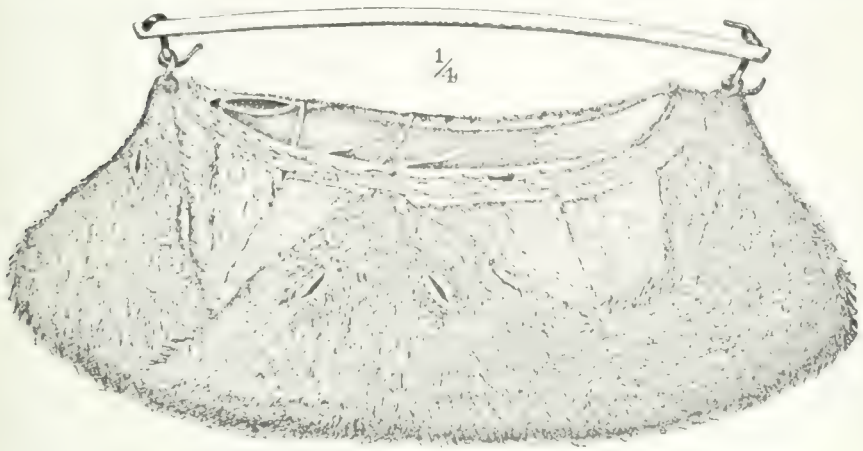


Fig. 47.

TOOL BAG OF WOLVERINE SKIN.

bear longitudinal lines with lateral cuts, so placed as to resemble arrowheaded or >-shaped figures. The type of decoration being one of the oldest and simplest, will be found more fully treated and illustrated in connection with the subject of decoration and conventionalizing.

The specimen is apparently a very old one, archæologically, and shows traces of long-continued or rough usage.

Plate 49, fig. 6, shows an ornament for attachment to the cap used by Aleut hunters, as is shown in plate 53. This specimen was obtained at Kushunuk. The ornamentation consists of very strongly incised concentric rings, to the outer one of which are attached two parallel lines extending diagonally toward the base line, possibly with the intention of filling the blank triangular space, which would otherwise remain without markings.

Many of the so-called drill bows in the collection of the National

Museum are, in reality, handles for carrying tool and other bags. The Point Barrow collection contains four such bags, and as Mr. Murdoch's description is short and to the point, I can not do better than to quote him. He says:

These bags are always made of skin with the hair out, and the skins of wolverines' heads are the most desired for this purpose.[1] [Fig. 47.]

The bottom of the bag is a piece of short-haired brown deerskin, with the hair out, pierced across the middle. The sides and ends are made of the skins of four wolverine heads, without the lower jaw, cut off at the nape and spread out and sewed together side by side with the hair outside and noses up. One head comes to each end of the bag and each side, and the spaces between the noses are filled out with gussets of deerskin and wolverine skin. A narrow strip of the latter is sewed round the mouth of the bag. The handle is of walrus ivory, 14¼ inches long and about one-half inch square. There is a vertical hole through it one-half inch from each end, and at one end also a transverse hole between this and the tip. One end of the thong which fastens the handle to the bag is drawn through this hole and cut off close to the surface. The other end is brought over the handle and down through the vertical hole and made fast with two half stitches into a hole through the septum of the nose of the head at one end of the bag. The other end of the handle is fastened to the opposite nose in the same way, but the thong is secured in the hole by a simple knot in the end above. On one side of the handle is an unfinished incised pattern.

Many of these bag handles are decorated on two, three, or even all four sides, when they are so fashioned, although some are convex above, as well as below, leaving but two sides upon which to engrave anything.

Another variety of decorated handles are those used in small bags, meaning but one-quarter the size of the one above described.

In addition to the incised ornamentation, both decorative and historical or mythologic, many of the small bag handles are carved with whale flukes, bear heads, seal heads, and other objects, as will be found upon examining various illustrations in the present paper.

DECORATION OF ANIMAL CARVINGS.

As in the preceding methods of decorating ornaments, various animal carvings, effigies, toys, etc., are also ornamented, the artistic efforts being directed, in many instances, to heighten the resemblance to the prototype selected. Thus are attempted the indication of spots, stripes, and scales upon animals and fish, the results being often very clever.

Plate 53, fig. 1, shows a specimen which was obtained at Sledge Island. It is a very ornamental handle for packages or bags, to either end of which is attached a short chain. One of these chains terminates in a seal head. The links were cut from the same piece as the handle itself. The separate attachments to which the package is fastened consist of two small swivels, or pins, perforated below and terminating on top in carved seal heads, the ears, eyes, nostrils, and mouth of which are clearly indicated. The ornamentation upon the top of the handle consists of four small characters of the primary form of decoration

[1] Ninth Annual Report Bureau of Ethnology, 1887-88. 1892, pp. 187, 188, fig. 166.

previously referred to, and illustrated in plate 48, figs. 1 and 2, and plate 31, fig. 2.

Plate 55, fig. 2, is another kantag handle, and was obtained at Norton Sound. It is very old, measures 6¼ inches in length, and is ornamented upon the upper surface with two rows of seal heads in relief, each row consisting of fifteen heads, upon which are indicated the eyes. At either end are the relief figures of two whales flanking the perforations through which the cords are passed.

Plate 32, fig. 3, represents two ear pendants. Very quaint faces are inclosed by circles from which project four small circles or knobs with central indentations. The eyes, nose, and mouth very much resemble the face of a seal, the forehead being ornamented by small punctures. This closely resembles the carved ivory seal faces in fig. 6, in which the punctures are placed upon the cheeks to indicate the root of the whiskers. Above the eyes are markings to denote the eyebrows. In other respects the faces are very human. These faces resemble to some extent that shown in fig. 7, although it will be observed that in the latter the nostrils are very definitely outlined, while beneath the mouth are two pairs of descending lines to indicate tattoo marks.

Plate 56, fig. 2, represents an effigy of a seal. The concentric circles are ornamented on the outer side with three short radiating lines and a longer base line in exact imitation of the common flower symbol which it is undoubtedly intended to represent. The central perforations made by the central pin of the tool used in making the symbols are closed with wooden blocks which secure small bunches of bristles. Altogether the specimen is very artistically made.

Plate 56, fig. 3, shows a belt clasp. This represents a seal. Upon the side of the body is a large figure of concentric rings, to either side of which are three small sets. The central one is furthermore ornamented with four short radiating lines attached to the outer ring, while the small circles are decorated with short radiating lines, the upper one being represented by pairs, while the bottom line is represented by two lines; yet the figures appear to be the same as the conventional flower symbol, which may have been utilized in this instance to ornament the body of the animal, as in the preceding case.

Plate 26, fig. 3, represents a seal drag from St. Michaels. The thong is made of rawhide, and the instrument is used for dragging dead seals. It is made of walrus ivory, and represents two seal heads, the eyes and nostrils being clearly indicated, not only by perforations, but in one case the perforations are filled with wooden pegs, and the other the eyes are filled with beads. Upon the throat of each seal is the effigy of a whale, very neatly carved, and partly detached to add to its relief. The perforation extends through the mouth of the seal at the right hand, for the admission of a noose or cord. Upon the upper surface of the drag concentric rings are seen.

Plate 56, fig. 4, represents the effigy of a seal, and was made to be

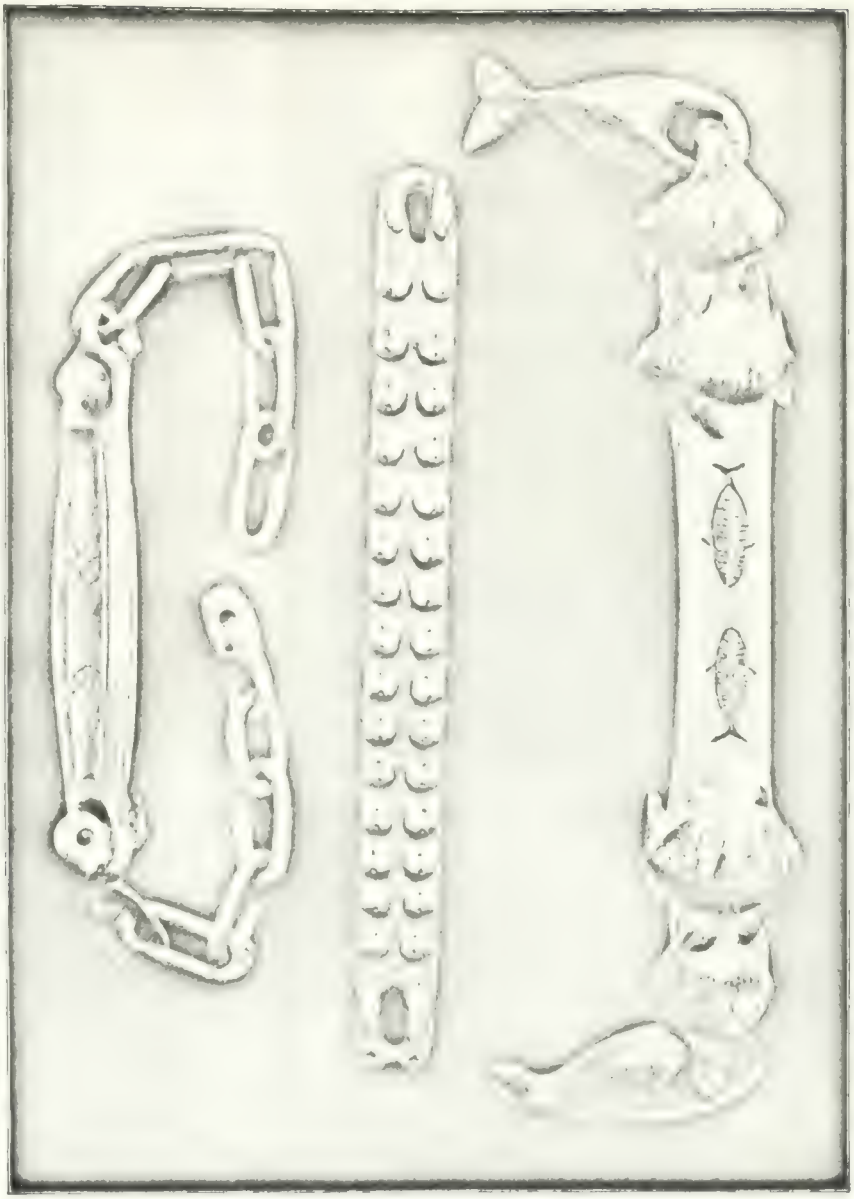
EXPLANATION OF PLATE 55.



Fig. 1. BAG HANDLE WITH CHAIN ENDS.
(Cat. No. 44691, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)

Fig. 2. KANTAG HANDLE.
(Cat. No. 24431, U. S. N. M. Norton Sound. Collected by L. M. Turner.)

Fig. 3. KANTAG HANDLE.
(Cat. No. 44690, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)



ORNAMENTED BAG HANDLES.

EXPLANATION OF PLATE 56.



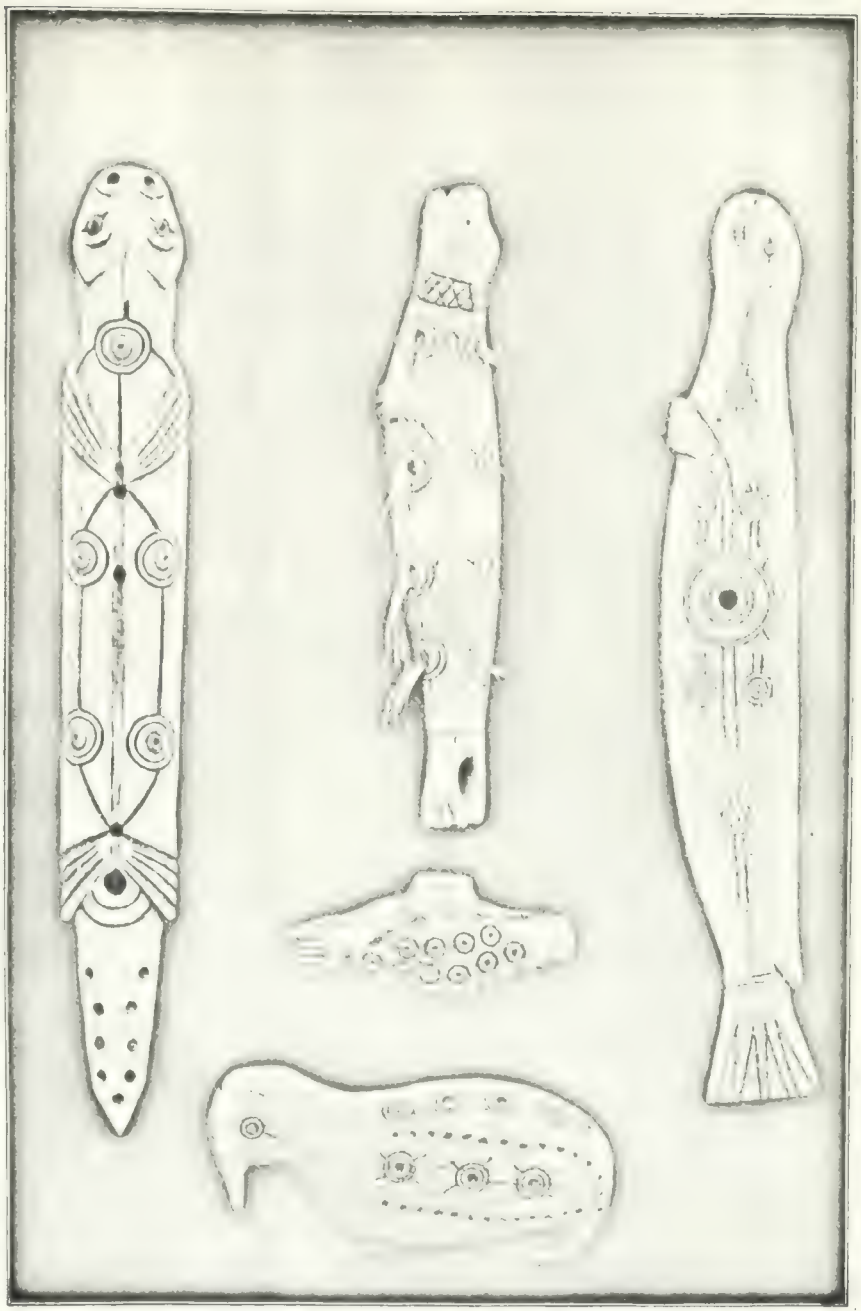
Fig. 1. Effigy of Otter.
(Cat. No. 36477, U. S. N. M. Kushkunuk. Collected by E. W. Nelson.)

Fig. 2. Effigy of Seal.
(Cat. No. 55909, U. S. N. M. Briston Bay. Collected by E. L. McKay.)

Fig. 3. Effigy of Otter.
(Cat. No. 16140, U. S. N. M. Minivak Island. Collected by W. H. Dall.)

Fig. 4. Effigy of Seal.
(Cat. No. 48642, U. S. N. M. Kotzebue Sound.)

Fig. 5. Effigy of Walrus.
(Cat. No. 72904, U. S. N. M. Nushagak. Collected by E. L. McKay.)



ORNAMENTED ANIMAL EFFIGIES.

EXPLANATION OF PLATE 57.

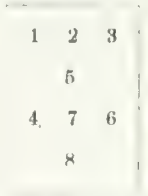


Fig. 1. EFFIGY OF FLOUNDER.
(Cat. No. 43786, U. S. N. M. Unalakleet. Collected by E. W. Nelson.)

Fig. 2. CARVED FIGURES OF SEALS.
(Cat. No. 35900, U. S. N. M. Aleutian Islands. Collected by L. M. Turner.)

Fig. 3. EFFIGY OF SEAL.
(Cat. No. 37610, U. S. N. M. Unalakleet. Collected by E. W. Nelson.)

Fig. 4. DRAG HANDLE IN IMITATION OF SEAL.
(Cat. No. 33292, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 5. BELUGA.
(Cat. No. 33373, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 6. BEAVER.
(Cat. No. 33356, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 7. GRAYLING.
(Cat. No. 33535, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 8. FISH.
(Cat. No. 33535, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)



DECORATED ANIMAL FORMS.

used for attaching cord and for dragging seals. The ornamentation consists of sharply marked nucleated circles. The specimen is from Kotzebue Sound, and is considerably ruder and less artistic than the other specimens in this series.

In plate 56, fig. 5, is reproduced the effigy of a walrus. The specimen was obtained at Nashagak by Mr. E. L. McKay. As in figs. 2 and 3, the body is ornamented with concentric rings, to the outer of each of which are radiating lines, almost like the conventional flower symbol, and possibly intended for the same. Extending horizontally between these "circle markings" are rows of small perforations, or drilled holes, simply to serve as ornaments. The peculiar marking upon the top of the head, which no doubt is intended to represent the wrinkles or folds of the skin, is also the rude symbol of the female genitals as drawn by the Eskimo, and of which one single instance is found in the collections of the National Museum, and is reproduced in fig. 48.



Fig. 48.
ETCHING OF PUDENDUM.

Plate 41, fig. 1, is an ivory wedge used for splitting walrus hide. The tool is made in imitation of an otter, the back and eyes having incised nucleated rings, with radii, which are connected by lines. The back bears, within the parallel space, some herringbone patterns similar to those on the figures shown on the same plate (41), figs. 3 and 4.

Plate 54, fig. 1, represents a carving of an otter. The article served as an ornament, but for what special purpose is not known. As will be noted by reference to the illustration, the back from the neck to the base of the tail bears a deep incision, through which were made several perforations for attaching it by means of cords to some other object. Within the concentric circles are blue glass beads which have been inserted in the perforations left by the tool used in making the rings. The eyes are also provided with small glass beads. All the lines and markings have been filled in with some black coloring matter.

Plate 57, fig. 6, represents a beaver, upon whose back is the outline of a smaller beaver. Over the whole are ornamental lines crossing one another at right angles.

Comparison may be made with an effigy of a seal, upon whose back, transversely and in relief, is a young one; both parent and young being decorated, the former with concentric rings.

Plate 26, fig. 2, represents a bag handle from the Lower Yukon. The specimen is almost semicircular, and measures 9 inches across from point to point, and 4 inches in height. The upper or convex side has high relief carvings representing bears' heads, nine in number, the eyes and nostrils being pronounced perforations, while upon the forehead of each is a sharply defined cross. Along the upper edge, corresponding to the necks of the bears, are the deeply cut figures of six bears, and continued around to the inside of the handle, and connected with the necks of three of the bears, are the figures of trees.

Immediately below the bears' heads are the figures of seventeen seals, to the back of each of which is a diagonal line to represent a harpoon, while transversely to the latter is shown the cord. These resemble a general attempt at ornamentation, the uniformity of drawing appearing to substantiate this belief.

Plate 57 represents a number of figures of animals and fish, all of them toys, with the exception of fig. 4, which is a drag handle. Fig. 1 represents a flounder, and is ornamented with delicate incisions and radiating lines for fins. Fig. 2 shows an ivory carving representing seals and ornamented with delicate punctures and incised lines. Fig. 3 is an effigy of a seal with the head portion plain while the back is ornamented with triangular marks as if made with single incisions of a three-cornered graver. Fig. 4, already referred to, represents a seal, the ornamentation consisting of curved parallel lines within which are short diagonal lines extending from each parallel line toward the other.

Plate 57, fig. 5, represents the beluga, with very rude markings upon the back.

The Kantag or bag handle shown in plate 58, fig. 3, is in imitation of a beluga whale, while the back of the neck also bears a rude outline of such a mammal. The shoulder bears a transverse bar within which is a meandering line extending from side to side of the animal; behind this are the figures of four "killer" whales, while near the rear end of the figure itself is the upper part of a bowhead whale shown with water spouting.

Plate 55, fig. 3, represents a kantag handle from Sledge Island. The decoration consists of figures of four right whales carved transversely, two at either end. From the ends of the handle are suspended, in the shape of links, other whales, while upon the middle of the handle are engraved delicate outlines of two whales facing each other.

Plate 41, fig. 6, represents a bodkin, the point consisting of part of a three-cornered file while the other end terminates in a short chain. The last link represents a fish tail and is ornamented with nucleated circles, while the handle of the instrument bears a series of nucleated rings with short radiating lines, representing the flower symbol, as in plate 15, fig. 4, though larger.

Plate 57, fig. 7, represents a grayling, though in reality the shape and pronounced decoration of the upper half of the body represents more nearly the salmon. It will be noticed that the median line is ornamented with other lateral incisions in imitation of the "fish trap" pattern, while the fins are very pronounced and consist of sharply marked serrations, resembling one-half of the preceding pattern.

Plate 57, fig. 8, represents a fish, the dorsal markings consisting of hatched lines. This probably represents a salmon.

EXPLANATION OF PLATE 58.



Fig. 1. HUNTING RECORD.
(Cat. No. 89487, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 2. KANTAG HANDLE.
(Cat. No. 43936, U. S. N. M. "Nuhniakhchugaluk." Collected by E. W. Nelson.)

Fig. 3 KANTAG HANDLE.
(Cat. No. 43820, U. S. N. M. Unalakleet. Collected by E. W. Nelson.)

Fig. 4. KANTAG HANDLE.
(Cat. No. 24429, U. S. N. M. St. Michaels. Collected by L. M. Turner.)

Fig. 5. BONE BOX.
(Cat. No. 129221, U. S. N. M. St. Michaels. Collected by L. M. Turner.)



DECORATED UTENSILS.

PICTOGRAPHS OF DOMESTIC AVOCATIONS.

The greater number of the records appear to come under this general caption, together with which some hunting scenes are included. The various forms of habitations used by the Eskimo are also here referred to, rather than in the previous chapters in connection with the geographic location and environment of the several subtribes or settlements, because comparisons may here be made between the forms or outlines of houses, sledges, and possibly also canoes, to show the degree of fidelity of reproduction of specific peculiarities of either of the last named.

HABITATIONS AND CONVEYANCE.

In his reference to the dwellings of the Eskimo generally, Mr. Petroff[1] speaks of the winter and summer habitations as being quite distinct from one another. The former being underground to a certain extent, having a mound-shaped appearance with a ridge projecting for some distance, beneath which is the entrance, is closely imitated in the pictographs by the natives. The smoke holes are in the top of the dome, or near the center, for the escape of the smoke. The common houses, on the other hand, are inclosed above ground, and partake of the nature of a log structure covered with skins, and sometimes of an ordinary tent-shaped shelter. The fire is built not within the tent, but before the entrance. This feature is also carefully observed in the etchings made by the native artist, and numerous examples are given in illustration thereof.



Fig. 49.

DWELLING FROM CHUCKCHE YEAR RECORD

A larger building, known as the kashqa, is found in almost every village, built after the pattern of the winter habitation. A raised platform runs all around the interior for seating the visitors, and on some of the larger kashqas several such tiers have been observed. These structures are generally used for ceremonial observances. An illustration of the ground plan of such an inclosure, made by a native, is reproduced in fig. 49.

In fig. 49 is the outline of a dwelling reproduced from plate 81, which constitutes a Chuckche "year record." The original was obtained by Baron Nordenskiöld in Siberia, and is now in the possession of a gentleman in England. The pictographs were drawn upon a piece of walrus hide.

In the interior, at the left, is shown the ridge intended for seats or sleeping places. The occupant seated upon it appears to be gesticulating and in conversation with his companions.

A similar drawing in fig. 50 shows this seat also. This sketch is

[1] Tenth Census of the United States, VIII, p. 128.

from a pipe from Norton Sound. A drummer occupies the seat, while his companions are dancing.

On the outside is shown one man at work chopping wood, while two of his companions are indicated as bringing in a piece of timber for splitting.



Fig. 50.

WINTER HABITATION, WITH WOOD CHOPPER AT WORK.

This structure is almost a counterpart of the specimen on the Chuckche chart from Siberia.

In fig. 51 are represented two forms, almost identical, of structures made for white men, to serve as trading establishments as well as sleeping quarters. The outline in some pictographs of traders possesses one more nearly like a one-story log house.

On one of the ivory bodkins shown in plate 24, fig. 5, the triangular figures with diagonal projecting lines on either side near the top are outlines of summer habitations, the utilization of which for apparently purely decorative purposes being probably prompted by the regular and angular forms, straight lines being preferable and more desirable for such ornamental engraving, as curved lines are foreign to the primitive straight-line system, largely attributable to the kind of instruments available and the generally difficult nature of the substance to be worked or engraved.

In plate 59, fig. 4, is another and ruder form of indicating the same style of summer habitation, the variants in plate 59, fig. 2, being also more explanatory in detail, and of interest as indicating a departure in engraving from the original type of a tent shelter, the light lines diverging from near the top denoting the poles, over which some skins or imported fabrics have been thrown.

In plate 60 are a number of illustrations of native pursuits. In the fifth line, or No. 5, are shown some delicately engraved figures.

Nos. 1, 3, 5, 7, 9, 10, and 12 represent habitations of several kinds, of each of which the village is composed. The occupant at the entrance to No. 1 is employed in suspending from a pole—to the left of the house No. 3—some meat, probably fish. Festoons of the same kind of food, for the purpose of drying, are suspended from the food racks shown in Nos. 4, 6, and 8 and on the horizontal pole resting on the roofs of the two houses at Nos. 9 and 10. A granary is also indicated in No. 8, the stairway beneath being plainly shown. The occupants of the houses Nos. 9 and 10 are also occupied with domestic duties. Fig. 11 represents the boat, placed upon a rack so as to dry the skin covering.

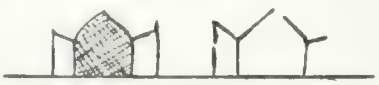


Fig. 51.

WHITE MEN'S DWELLINGS.

The summer habitation (No. 12) has an open door at one side, and to

EXPLANATION OF PLATE 59.

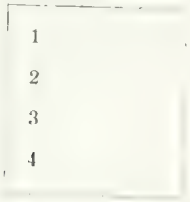
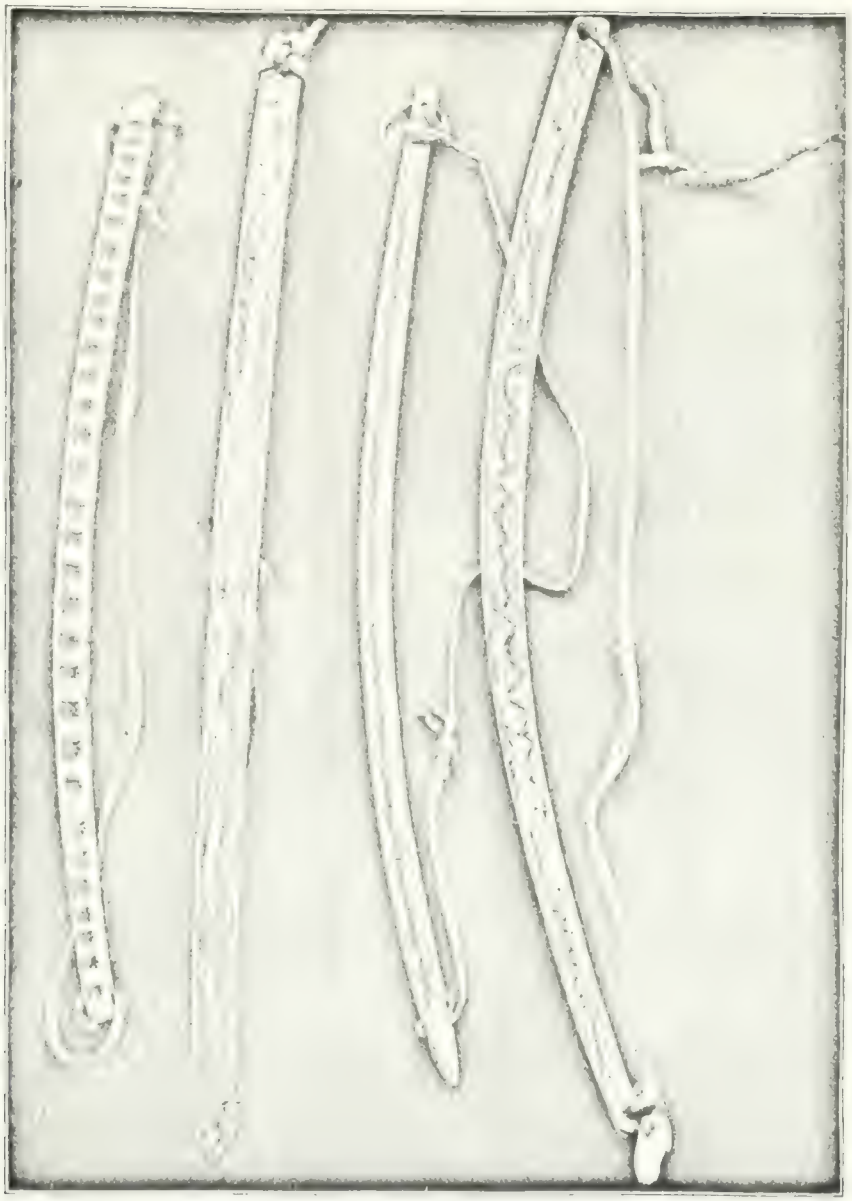


Fig. 1. DRILL BOW.
(Cat. No. 43930, U. S. N. M. Nubriakh. Collected by E. W. Nelson.)

Fig. 2. DRILL BOW.
(Cat. No. 43360, U. S. N. M. Cape Prince of Wales. Collected by E. W. Nelson.)

Fig. 3. DRILL BOW.
(Cat. No. 33186, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)

Fig. 4. DRILL BOW.
(Cat. No. 33187, U. S. N. M. Norton Sound. Collected by E. W. Nelson.)



RECORDS ON DRILL BOWS.



1



2



3



4



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

5



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 15 17

6



1 2 3 4 5 6 7 8 9 10 11 12 13

7



1 2 3 4 5 6

the right is seated one of the household (No. 13) employed in stirring some food in a kettle. The smoke (No. 14) is rising to a considerable height, and another pot or kettle is seen to the right. The native shown in No. 15 is greatly excited, having both hands, with extended fingers, thrown upward, the cause being seen in an old man dragging ashore a walrus, which is being harpooned by No. 17. The old age of the native (No. 16) is indicated by his walking with a staff, this method of portraying an old person being common in many portions of the world, the Egyptian hieroglyphs abounding in characters almost identical to the one here shown. The walrus (No. 19) is also shown as having been captured, the native in No. 21 having considerable difficulty in dragging it ashore, as he is down on one knee tugging at the harpoon line, while a companion is observed near him (No. 22), aiding him.

Fig. 20 is the outline of a doe, which was also secured. No. 23 denotes a dog, while Nos. 24 and 25 indicate two other natives.

An excellent illustration of the different methods of portraying canoes and houses is given in plate 60, seventh line, the whole scene denoting a native village situated near the water. Upon the canoe (No. 21) is a "shaman stick," or votive offering, erected to the memory of the one who owned the scaffold, and perhaps canoe as well. Another offering of similar purport is erected upon the roof of the house No. 10. One showing the same fan-like top will be found in connection with mortuary customs.

At No. 4 the native is putting away something resembling a pole, while at No. 6 the two men seem to be engaged in conversation concerning the canoe, the one nearest to it having his right hand pointing toward or touching it.

The winter habitations, with their entrances, are portrayed in a manner different from the usual custom. The entrance is very projecting, and apparently overhanging.

Smoke is seen issuing from the apex, chimney, or funnel containing a smoke hole, on the house No. 12. A food scaffold, known by the vertical poles projecting considerably above the transverse body, is shown in No. 13, while beyond is what appears to be another scaffold. The erosion to which the ivory has been subjected has obliterated all other parts of the figure.

A very common figure is that resembling an oblong box placed upon upright poles, in reality a scaffold, upon which is built a storehouse for the protection against noxious animals. These figures are usually placed near the representation of the dome-shaped winter habitation, as each family has such a storehouse.

Other scaffold-like structures also occur, and frequently the kaiak or umiak, placed upon the scaffold for drying, may be mistaken for one of these, which, in reality, are the resting place of some human body. This practice is not common everywhere, however.

In some ethnographic "Memoranda concerning the arctic Eskimos in Alaska and Siberia," by Mr. John W. Kelly,[1] an interpreter, says:

The Eskimo oomeaks (open boats) have a framework of spruce covered with split walrus hides, sea-lion skins, or white grampus skins. The latter is not used if sea-lion or walrus skins are obtainable, as it is rather thin. The Bering Strait and north-coast boats are generally 24 feet long with 5 feet beam, and have a carrying capacity of 15 persons and 500 pounds of freight.

Those of the Kotzebue Sound average about 35 feet in length and 6 feet in width. They have a carrying capacity of 20 persons and 1,000 pounds of freight, or 3,000 pounds of merchandise and a crew of 6 men. There are exceptional boats built on the sound that are as much as 42 feet over all. In crossing Kotzebue Sound or Bering Strait the natives sew on bulwarks of sea-lion skins a foot high to keep the water from dashing in.

Mr. Ivan Petroff,[2] who spent a number of years in various portions of Alaska, in an official capacity, says of the vessels of the Eskimo:

All the Eskimo tribes, without exception, manufacture and use the skin canoe known as the kaiak, identical with that of the eastern or Greenland Eskimo; and this feature is so distinctive and exclusive that a tribal name might justly be based upon it should the necessity arise for another. At present I know of only one instance where an intermixture of the Innuit with another tribe has taken place



Fig. 52.

MODEL KAIAK AND DOUBLE PADDLE, POINT BARROW.

under such circumstances that the foreign element has gained the upper hand, and there they have already abandoned the manufacture of the kaiak and apparently forgotten the art of its construction. I refer to the Oughalakhmute, who have mixed with the Thlinket. The open skin boat, the *oomiak*, or woman's boat, also known as *bidar*, is used by certain tribes on the north coast of Asia; but the kaiak proper is only found among the Eskimo.

When the Russians first observed this craft, they applied to it the name of bidarka, a diminutive of bidar, a Kamchatkan term for an open skin boat. This term is now used throughout Alaska wherever Russian influence once predominated, and the same word has been incorporated into several Eskimo dialects in the form of *bidali*, which is, however, applied only to two and three hatch kaiaks—a variety formerly known only on the Aleutian Islands, and adopted by the Russians for greater convenience in hunting and traveling. From Bristol Bay westward and northward the kaiak and oomiak only are used.

The accompanying illustration serves to show the general form of the kaiak, so often figured by the natives in their hunting record.[3]

Although fig. 52 is from the most northern portion of Alaska, the generic type of construction is practically the same among all the

[1] Bureau of Education, Circular of Information No. 2, 1890, Washington, 1890, p. 27.
[2] Tenth Census of the United States, VIII, 1884 (Alaska, etc.), pp. 124, 125.
[3] Ninth Annual Report Bureau of Ethnology, 1887-88. 1892, fig. 341, p. 224.

Eskimo. The double paddle is so often used in portraying signals on ivory that its representation here will be of interest in showing how accurately the native artist portrays even the tapering form of the blades.

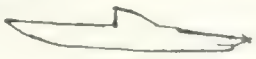


Fig. 53.
KAIAK.





Fig. 54.
KAIAKS.

On plate 27 is shown an illustration of a native kaiak model.

Several forms of the native portrayal of kaiaks are shown in figs. 53 and 54. The first is a simple outline and incomplete, and an occupant was evidently intended to be portrayed, as all the remaining portion of the record from which it was selected was complete in every detail. The two illustrations in fig. 54 are less accurate in outline, the latter being a simple group of scratches.

The specimen shown in fig. 55 is very accurately drawn, the harpoon and seal float being shown upon the kaiak immediately behind the hunters.

The representation of large boats used for traveling, hunting, and fishing, for the propulsion of which boat oars and sails may be used, is of such frequent occurrence in the records of the Eskimo, that a reference to the vessel and its actual appearance is deemed appropriate.



Fig. 55.
KAIAK.

This large skin-covered open boat is in general use by the natives of Greenland and Alaska, as well as by the Aleuts and some Siberian tribes. The vessel is designated as the umiak, by the Point Barrow natives, and some of the Aigaluxamiut, of the southern coast, have used this name as well as the term baidarka.

Fig. 56 represents a model of an umiak from Utkiavwiñ, U. S. N. M., No. 56563,[1] and seems to illustrate the general form so closely followed in the engravings by native artists. The natives sit with the face toward the bow, using the paddle and not an oar. The women are



Fig. 56.
MODEL OF UMIAK.

said by Egede, in his "Greenland" (p. 111), to sit with the face toward the stern, "rowing with long oars." Mr. Murdoch[2] remarks with reference to this that "though the women do a great share of the work of

[1] From the Ninth Annual Report Bureau of Ethnology, 1887–88, 1892, fig. 345ª, p. 340.
[2] Idem, p. 335.

navigating the boat when a single family or a small party is making a journey, it is by no means considered a woman's boat, as appears to be the case among the Greenlanders and the eastern Eskimo generally. On the contrary, women are not admitted into the regularly organized whaling crews, unless the umialik can not procure men enough, and in the 'scratch' crews assembled for walrus hunting or sealing there are usually at least as many men as women, and the men work as hard as the women."



Fig. 57.
UMIAK.

This is mentioned to explain the reason why the female figure is absent in records of hunting and fishing trips, although present in other scenes, such as domestic and probably ceremonial records.

Plate 28 represents an illustration of a native model from Alaska.

A native drawing of the umiak with four hunters is shown in fig. 57. The lines are heavily incised, and blackened. The men are without paddles, which may have been an oversight on the part of the artist. The spear or harpoon rest is also shown, as well as the weapon itself.



Fig. 58.
UMIAK.

A less carefully drawn illustration of an umiak is shown in fig. 58. The three occupants are without paddles. Still ruder form is shown in fig. 59, where an attempt at throwing a harpoon at a whale is also shown.

In fig. 60 is reproduced a still ruder drawing of an umiak, no hunter being shown, yet the record in which this vessel occurs is of a class, or in that condition of completeness, that should also have present the occupant.

A better illustration of an umiak, containing five people, is shown in fig. 61. The lines are lightly incised.

A neatly executed sketch of an umiak is illustrated in fig. 62. The bow is longer than usual, and also projects from the water.



Fig. 59.
UMIAK PURSUING WHALE.

Two varieties of sledges are portrayed in pictographs made by the Eskimo, one of them being the railed sledge (fig. 63), used for carrying loads of articles belonging to camp equipage, etc., while the other pertains to a low flat sledge, without rails (fig. 64),[1] and used for carrying bulky objects, such as game, frozen seals, and, as Mr. Murdoch informs us, for transporting the umiak across the land or solid ice. Both are made without nails, the different parts being mortised together and lashed securely with stitches of thong and whalebone.

[1] Ninth Annual Report of Bureau of Ethnology, 1887–88, 1892, p. 353.

The runners are made to slide easily by fitting to them shoes of clear ice as long as the runners themselves, "fully 1 foot high by 6 inches thick. The sledge, with these ice runners, is estimated to weigh, even when unloaded, upward of 200 or 300 pounds; but it appears that the smoothness of running more than counterbalances the extra weight."[1]

The flat sledge is used also for ordinary travel as well as freight, and an illustration of one with ivory runners is shown in fig. 65.



Fig. 60.
UMIAK.

The difference between these varieties are often very neatly portrayed, as well as other accessories pertaining thereto.

Doctor Dall furnishes several illustrations of sledges,[2] one from Norton Sound being like the railed sledge of Point Barrow. Some difference, however, is apparent, and this may naturally influence the portrayal of the vehicle in engravings on ivory. The same author also furnishes the illustration of a Hudson Bay sledge in which the runners are absent, the entire base consisting of birch boards, three of which are laid side by side and secured, and about 12 feet long. These are cut thin at one end and turned over like a toboggan, held down with rawhide, and inside the curve, says Doctor Dall, the voyageur carries his kettle.



Fig. 61.
UMIAK.

The railed sledge of the Yukon is somewhat different from the two forms already mentioned, the upper rail rising from the front toward the back, and resembling very much a native sketch of a dog sledge, as shown in fig. 66. The hunter seems to be seated upon the sledge, seeming to indicate that he has no other loads and that the rear projection on the sledge is the high framework shown in the Yukon type.

In fig. 67 is a native reproduction of a dog sledge made somewhat after the type of the Point Barrow type, though no such drawings have been found in Point Barrow records. The men are both energetically working to aid the dog in moving the sledge, which seems loaded. The dog is well portrayed, the ragged outline no doubt being intended to denote the shaggy coat of hair.



Fig. 62.
UMIAK.

In his reference to the Eskimo of Melville Peninsula, Captain Parry says:[3]

> The distance to which these people extend their inland immigrations and the extent of coast of which they possess a personal knowledge are really very remarkable. Of these we could at the time of our first intercourse form no correct judgment, from our uncertainty as to the length of what they call a seenik (sleep), or one day's

[1] Ninth Annual Report of Bureau of Ethnology, 1887–88, 1892, p. 354.
[2] Alaska and its Resources, Boston. 1870, p. 421.
[3] Journal of a Voyage, etc., etc., London: 1821, p. 165.

journey, by which alone they could describe to us, with the help of their imperfect arithmetic, the distance from one place to another. But our subsequent knowledge of the coast has cleared up much of this difficulty, affording the means of applying to their hydrographical sketches a tolerably accurate scale for those parts which we have not hitherto visited.

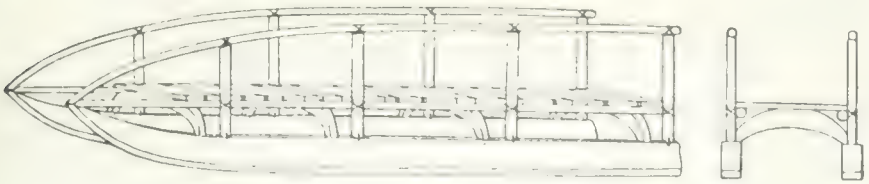


Fig. 63.

RAILED SLEDGE. POINT BARROW.

In the following description tents, habitations, and boats are illustrated, as also some domestic avocations, as might be expected in the representation of village life.

Quite an interesting result is produced in plate 60, fig. 6, or sixth line, the drawing representing the outlines of the houses so that the interior, with the occupants variously engaged, is exposed to view.

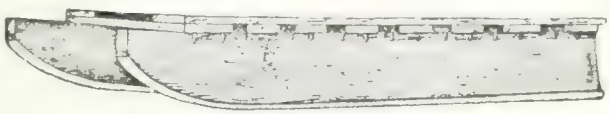


Fig. 64.

FLAT SLEDGE. POINT BARROW.

The end of the record at No. 1 denotes a partial turn, indicating the intention of the owner of the record to at some future time continue the pictographs in that direction to the next face of the drill bow. No. 1 is on or at his empty storehouse, the framework only being drawn.



Fig. 65.

SMALL SLEDGE WITH IVORY RUNNERS. POINT BARROW.

No. 2 is a rack, with food or goods on top, while at No. 3 is the first house of the village—the latter being indicated by the several habitations. One of the occupants is seated upon an elevated ledge or seat, while another is seated on the floor before it; the other inmates are

either seated or moving about as indicated. Upon the roof is a votive offering, a bird-shaped "shaman stick," the import of which is elsewhere described in detail. Still more of the family are seen at the entrance to the house, one person within, while two are upon the roof. In the storehouse, or rather beneath the goods, No. 5, is visible a dog fight, the animals being drawn in the attitude of springing at one another; at the right is the owner occupied in removing some article from the scaffold.



Fig. 66.
SLEDGE.

In the habitation No. 6, with its entrance No. 7, are a number of persons in various attitudes. One is reclining upon the elevated shelf used for both seat and bed; while upon the floor are three seated at a table, those behind it being represented or partly hidden, the upper parts of their bodies only rising above the board. A number of other individuals are shown occupied in other ways. The scaffold at No. 8 supporting the goods, as usually represented, has also a horizontal pole for drying meat, several pieces thereof being designated, while two persons beneath seem to be touching hands or handing some article.

The habitation No. 9, and its entrance No. 10, also indicates a number of the inmates. One in particular is making gestures to another; between the two there is an object resembling a person as if wrapped in a blanket. Smoke is seen issuing from the smoke hole, while above it is what may be here intended the evil spirit of a dead person returning to take possession of a sick one.

The Eskimo generally believe in the return of the soul of the dead, and especially does the disembodied spirit hover around the house of the dead for three days, in the endeavor to return and to possess itself of a living body. In the purpose of guarding against this evil, the inmates make certain shamanistic preparations, prompted by the local shaman. The smoke issuing from the mouth of the smoke hole leaves open the way for the return of the evil spirit and his companion spirit, seen approaching from above the house.

No. 11 represents a scaffold for the storage of food, and a man is seen in the act of reaching toward the black spot denoting reindeer or venison house, as the shape indicates.



Fig. 67.
SLEDGE.

No. 12 is another interesting interior, one native being seated upon the ledge while a vessel is seen near his feet. Another man is reaching toward something near the ceiling, while the rest of the occupants of the room are seated, one of them reaching up toward the standing figure as in the act of asking for, or supplication. Smoke is issuing from the smoke hole, while some one is occupied near the fire beneath it. A ladder is placed against the outside of the entrance to the house, and a man is seen part way up near another person who seems to be occupied in gesture and conversation.

Another man is seen carrying a snowshoe-like object, probably of reindeer or deer, to the summit of the house roof to dry. The pole, with crosspiece, situated near the head of the ladder, is a votive offering erected there by one of the inmates.

No. 13 is a sledge, upon which is seated the driver using his whip. The dog is urged forward, and another native, one of the three, No. 14, who had been off trading for skins, is hailing a boat seen coming to the shore with the gunwale parallel therewith, presenting another good instance of foreshortening of the object. The man behind the sledge is walking along with his staff elevated. The inverted figure above seems to belong to a series attempted on that side of the panel of the bow drill, as another figure, having no apparent connection with the completed record, occurs also at a point over the three wading boatmen following the baidarka, No. 16, which is being pushed ashore. No. 17 is also in shallow water and appears to start away as the oarsmen are seated within with their arms extended grasping the paddle.



Fig. 68.
MENDING NET.

An interesting and cleverly drawn native sketch of a man mending a seine net is shown in fig. 68. The attitude is lifelike, while in one hand is portrayed a short line denoting the shuttle.

A man splitting wood is shown in the accompanying illustration, fig. 69. He has a heavy mallet or some other like utensil raised above his head, and in the act of driving wedges to split a piece of wood.

Plate 59, fig. 4, represents an old stained specimen of ivory from Norton Sound. The engravings upon this are rather deep, and are filled with deep brown coloring matter. The semicircular objects to the right of the middle, some being shown in rather an angular form toward the left of the middle, represent habitations. These characters appear in a more conventionalized form and for decorative purposes in plate 24, fig. 5.

The chief interest attached to this record is in the variety of forms of habitations, thus enabling one to perceive the differences in the variants placed in consecutive order. The two extremes are very unlike, and would scarcely be recognized as portraying a similar idea, but for the intervening examples showing the evolution in the execution of form.



Fig. 69.
SPLITTING WOOD.

The two elongated figures to the right of the habitations denote inverted kaiaks upon racks for drying. The human figures, one of whom is shown seated, represent natives supplicating a shaman for aid. The figure has both arms extended, as in making the gesture for supplication, while the shaman, standing at the left, has his arms and hands uplifted, as in the gesture illustrated in several figures relating to shamanistic ceremonials, termed by the natives as "agitating

the air" in order to call to him his tutelary guardian, who is to aid the shaman in success, in order to comply with the request made of him.

Within the dome-shaped habitation nearest the shaman is an accompaniment of tambourine drumming, while two assistants are also engaged in invocation.

To the right of the supplicant is a repetition of his own form, indicating his harpooning a seal or other animal, while still further toward the end of the rod is an unfinished figure of a man in a kaiak—probably the supplicant in another exploit made possible through the shaman's assistance.

Turning the bow around so as to bring the convexity beneath, there appears at the left a linear outline of some undetermined animal, near to which is an umiak containing three men. They are approaching a settlement indicated by two forms of habitations, a dome-shaped or permanent one and a triangular or temporary shelter, the two denoting both kinds constituting the village.

Two racks are visible, a single one from which are suspended numerous stands of meat or fish, and a double one, similarly filled with food. The rude outline of a native at the right is nearest to a boat lying upon its side, beyond which are the outlines of four waterfowl.

Some whales are next portrayed. The one with the flukes above the water, and the spray thrown or forced from the spout holes, appears to have thrown from the water the vessel containing four natives. Their vessel is curved, making a slight arch, and the exposed end seems broken open.

The whale beyond this is harpooned by a native in a kaiak; the inflated float is still upon the kaiak behind him, indicating that not much line has run out, as the whale, also, is headed toward the hunter.

The whale to the right of the preceding character has the tail up in the air, while some water is indicated as issuing from the spout hole. In front of this is an umiak with four hunters making for a herd of walruses on and about a ledge of rocks.

The rocks are indicated by the short markings between the two parallel lines denoting them, the markings consisting of the pattern frequently mentioned herein as fish trap, and of which numerous illustrations are given, as on plate 31, fig. 2, and plate 36, fig. 2, and on the accompanying plate 59, fig. 3. This indication of rock is of interest in its differentiation from ice, as a solid mass, the latter being drawn only to show its outline as a floe, the interior part of the space being left blank to denote its colorless or transparent condition. On the same plate, plate 59, in fig. 2, is shown a floe upon which seals are taking refuge.

The speaker, or rather he of whom the record treats, in plate 60, fig. 8, is represented at No. 1. His right hand is elevated as when used in gesticulating, while his left points down toward the foot of the scaffold upon which is a repository for food. The two scaffolds at No. 2 no

doubt belong to him, and form part of the village indicated by the several habitations and storehouses.

No. 3 is a dome-shaped winter habitation, about which two people are occupied. No. 4 is another granary or food repository, while No. 5 represents a second house upon which two people are talking very animatedly. The one at the right seems to be requesting, or supplicating, both hands being directed upward toward the one spoken to.

No. 6 is the storage place for food and other articles, while in No. 7 we find another dome-shaped winter house with the inmates in view. A third person is standing before the door, while under the accompanying scaffold a fourth individual is visible.

No. 9 represents a winter house, and smoke is rising from the place where the smoke hole is usually found. The smoke looks straight and rigid, resembling a tree. The two people seem to be occupied in carrying something. The illustration at No. 10 is a scaffold for the safe location of food, and Nos. 11, 13, and 14 are similar structures, whereas No. 12 is a warehouse, probably of a white trader. No. 15 is a winter house, though apparently deserted.

The specimen represented in plate 61 is a pipe bearing delicate and elaborate etchings of a variety of subjects. The object is made of walrus ivory, measuring 13⅞ inches in length, 1⅝ inches in height near the insertion of the bowl, and slightly less than 1 inch in transverse diameter at the same point. The perforation at the mouthpiece is one-eighth of an inch in diameter.

The bowl is of block tin, while the top of the bowl is lined with a thin sheet of perforated, ornamented brass. The caliber of the bowl is only one-fourth of an inch in diameter, and seems to have been made in imitation of a Chinese pipe bowl and possibly for the same style of smoking.

The pipes, like others of like form from the same locality, at St. Michael's[?], have been said to have been made for sale to traders. That may be, and does not in the least impair the interest and value of the pictographic records portrayed upon the several sides. Though the pipes may be shaped, to a limited extent, in imitation of foreign shapes, yet the pictography remains Eskimo, made by an Eskimo, and to portray Eskimo scenes and avocations.

The upper figure of the pipe presents the characters on the left side, and beginning at the extreme left is observed a vertical ornamental bar or border, similar to those drawn along the lower half of the pipe stem, though in the latter space they are arranged diagonally, and made to separate ornaments consisting of concentric rings, ornaments to which special reference is made elsewhere.

The first group consists of two persons engaged in twisting a cord, though the suggestion has been made that they appear to be engaged in a pastime which consists in making string figures, similar to the American boy's "cat's cradle," etc. The figure next to the right represents the end view of a building having two rooms, in the larger of



DECORATED IVORY PIPE.

which appear two persons seated playing on the tambourine drum, while a third person is depicted in the graceful attitude of dancing "a la Américaine." The fourth figure is crouching or kneeling before the hearth, probably to light a fire, as none appears to be there, as indicated by the absence of smoke. The presence of fire is generally indicated by the portrayal of short lines adhering to a vertical one, to denote smoke.

Upon the outside of the large room is a low structure containing the second room. The face of the sun is painted upon the wall, in reference to the return of the sun and warm weather—to spring; and the drops of water, caused by the melting sun or ice upon the roof, are shown dropping from a short wooden carved spout. The carving seems to have been made in imitation of similar ones found among the T'hlinkit and Haida Indians. The above dance and portrayal of the sun refers to highly important and complicated ceremonials observed at the return of the sun from the south.

The illustration reaching almost across the ivory space, that resembling light lines in imitation of a ladder, is a fish weir, placed in streams for catching salmon, and one of these fish is actually shown approaching the opening leading to the inclosure in which the game is secured. An otter is also drawn approaching the fish trap, denoting the destructive habits of the mammal in robbing the trap of fish thus secured and unable to escape.

The rectangular figure immediately behind the otter appears to be a view of the top of a boat landing, facing the water, and upon which are two persons, one seated near a handled vessel—probably a bucket or basket—while the other is drawn in the attitude of spearing fish, the entire sketch seeming to have reference to another method of securing fish for food.

Immediately across the ivory space, and along the opposite base line, are observable four persons, each drumming upon his medicine drum and approaching a dome-shaped habitation, within which are portrayed two persons, crawling forward on hands and knees to receive from a seated figure some mysterious or magic substance. This is a shamanistic ceremony, in which some charmed medicines are secured, and by means of which some special success is expected in the chase.

The character in the middle of the ivory rod, nearest to the dome-shaped house, is a spout of water, at the narrow end of which is a transverse line, with a shorter one within the inclosure. These two lines denote the logs of wood employed by the beaver in building a dam. The beaver is shown swimming toward a dark spot, which seems to consist of a series of short scratches, and which denotes the deposit of twigs for food, while the rounded dark disk upon the shore line represents the beaver's house. The animal is accurately portrayed, the tail being especially conspicuous to give specific indication as to the species of animal intended to be shown.

In the next figure is represented one method of securing deer. The

inclosure, within which three deer are shown, is a pen made for securing such game, the fourth animal to enter having been driven forward from the open country and guided toward the entrance by the erection of low brush fences, as will be observed, extending diagonally toward it from the base lines at either margin of the ivory. The two hunters, armed with bow and arrow, are seen running toward the inclosure to shoot the deer.

Beyond the rear fence or inclosure of the deep pen are two pine trees. Upon one is perched a bird, while half-way up the other is a small mammal. The latter is not drawn in imitation of the porcupine—as elsewhere portrayed—and it may be intended to represent the marten. The next figure is a black bear, erect upon his hind feet and being attacked by a hunter armed with a spear.

The next scene is a snare trap, which has caught and suspended in the air a small animal. The trap is surrounded by vertical sticks so arranged about the baited part that, to cause it to be sprung, the animal can reach the bait only at one open space. The noose is arranged so as to catch the animal about the neck, in imitation of the American boy's rabbit snare.

The next trap shown consists of a log, or sapling, resting upon a short upright piece, so that when the bait is touched the log will fall and secure, by crushing, the animal so unfortunate as to enter. The top is weighted by extra pieces of timber and sometimes stones, secured so as not to fall off. A small animal is seen approaching the trap from one side, while from the other is seen approaching a bear; the idea being that this arrangement or kind of trap is employed in securing both kinds of animals. The small deer and men shown along the opposite base line represent two hunters disguised in wolf skins so as to more readily approach within shooting distance of the reindeer, while the third has gone forward and shot an arrow, which is seen in its flight approaching an animal.

The last figure of the group is a fallen reindeer upon which one bird of prey has alighted and another is seen descending. The feathers in the outstretched wings are clearly indicated and the attitude is very lifelike.

The upper ridge of the right side of the pipestem also bears some interesting scenes. That on the section nearest the bowl contains two human figures, one representing a native in the attitude of kicking a ball, his leg being still in the air, while the other person is portrayed as reaching out his hands as if to catch the ball as it descends. The illustration next toward the left represents a habitation with two rooms, in the larger of which is a horizontal line, midway between the floor and ceiling, denoting the shelf used as seats and for sleeping. Upon this shelf are seven persons, five of whom are represented as drumming, using the ordinary tambourine for the purpose.

Beneath are five characters, four being shamans, while the fifth, a

smaller one, shown as horizontal in the air, is the demon which has been expelled from a sick man. The smaller apartment shows one person with a dish, or pan, probably preparing food for the participants in the ceremonials conducted within the adjoining room.

Outside of the house is a man portrayed in the act of splitting wood, the log beneath his feet having two wedges projecting which are being driven in to split the timber. A second individual is pushing at his dog sledge, he having returned with a load, as may be observed, the logs still in position at the front of the sledge.

The figure next to the preceding is seated upon the ground and apparently mending his net. The characters above the wood chopper and the returning traveler are drawn upon the opposing base line. The figure in the attitude of running is going to the assistance of one who has caught a seal, the latter resisting capture by the use of his flippers, which are drawn extended from the body to denote their use in the present instance. The ring indicates a hole in the ice, while the bar held in the hands is the piece of wood to which the line is secured.

The illustration of fishing through the ice is shown in several records, but in none more graphically than in the figure nearest to the seal hunter above referred to. The native is here shown seated, and before him is a fish lying attached to a short line by which it is secured, while with the other hand the fisherman is holding his rod, the line passing through a hole, and beneath are shown the sinker and hook, while a fish is seen approaching to take hold. The representation of the transparency of the ice was no doubt beyond the ability of the artist, and he therefore very wisely made no attempt at any indication of a surface line.

By turning over the pipestem the record may be renewed at the figure of the umiak, containing five hunters, four of whom are using the paddles, whilst the fifth is throwing a harpoon toward a large walrus. This creature has already been harpooned by a hunter in a kaiak, who is holding up one hand with his fingers spread, while in the other hand he holds his paddle. Upon the stern of the kaiak is the float, used in connection with the harpoon line. A second walrus is observed immediately behind the harpooned animal.

At the extreme left of the stem is a crouching or kneeling hunter preparing to throw a harpoon at a seal or female walrus, from whose mouth drops of water or perhaps blood are seen to trickle.

Upon the opposing base line of the pipestem is a single whale hunter in his boat, a small whale having been harpooned, while to the line a large skin float is attached to impede the animal's motion. The other whale is escaping, and the water is shown spouting from the nostrils of both animals.

The ornamentation upon the two lower sides, as well as the tree-like figures near the mouthpiece, will be discussed in connection with the evolution of ornamentation.

The specimen represented in the upper figure in plate 62 measures 12 inches in length along the central line and 1⅝ inches in height at the back of the bowl. The latter measures 2¼ inches across the top and is 1½ inches in height. The pipestem is made of a fine compact piece of walrus ivory, which retains some of its lateral curvature as well as that visible from the front view. The bowl is symmetrical and was undoubtedly turned on a lathe.

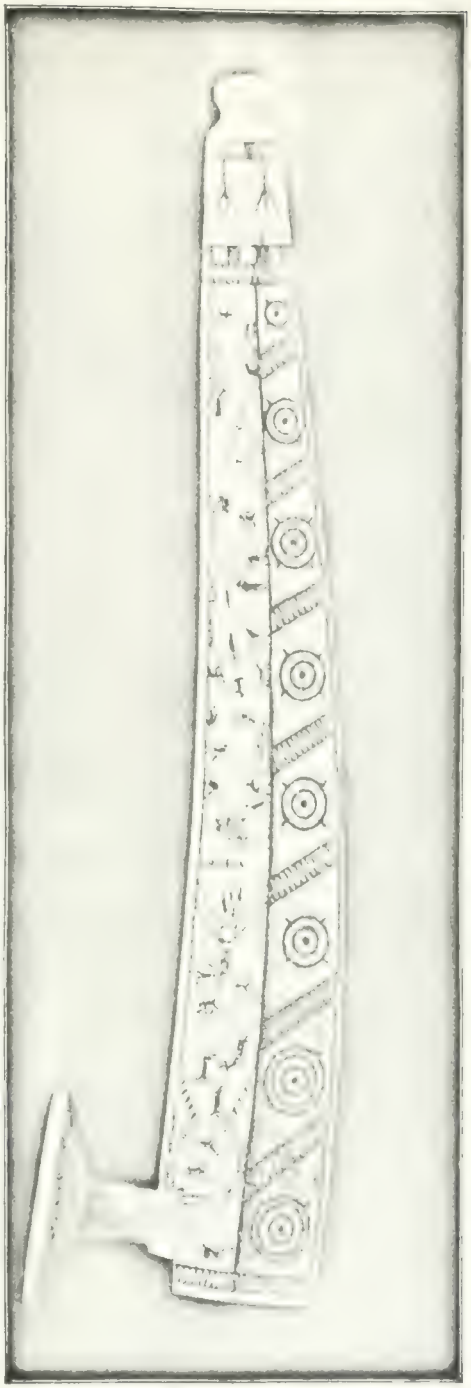
The characters portrayed along the middle base line, beginning nearest the mouthpiece, represent, first, a seal, then two water fowl. A walrus then appears above the surface and is looking after the umiak, which has passed in pursuit of a whale, and which creature has been attacked by one of the hunters. The second hunter is holding aloft his oar, a signal to indicate to others near by that assistance is wanted. The other men in the umiak are using the paddle so as to keep pace with the whale, which is shown spouting.

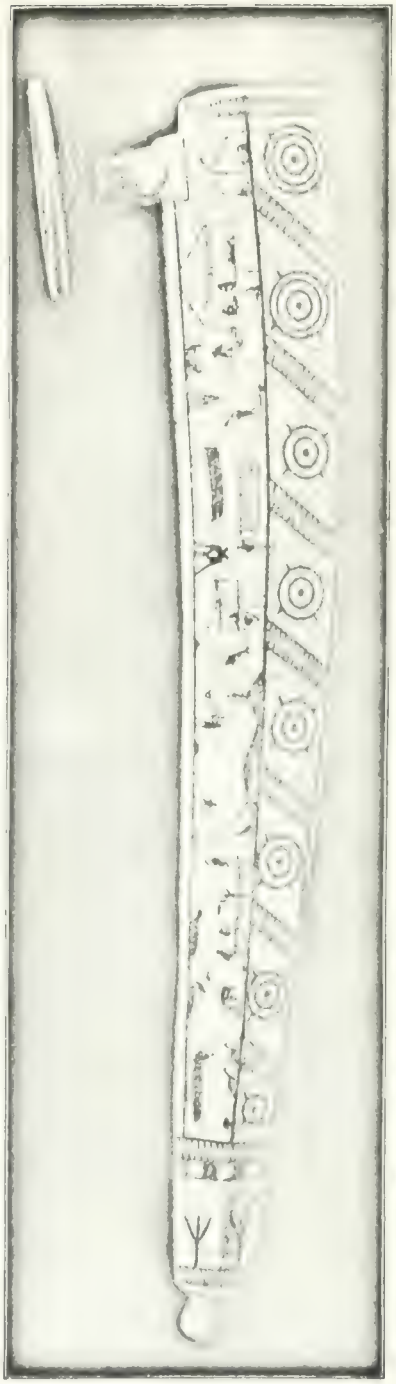
The elevated scaffold which is next portrayed was a notched piece of timber set in place to serve as a ladder, and one person is shown ascending, a bundle being attached to his back—probably food—as the other person on the scaffold is occupied in preparing food of some kind, which is then suspended from the horizontal poles, as shown in the etching. The next illustration, to the right, represents a fisherman hauling up his net to dry, while another man is occupied in splitting wood, the wedges used for the purpose being shown in the log at the end resting upon another piece of wood or a stone.

The house, which comes next in order, has two rooms, upon the roof of the smaller one being shown an individual carrying into the house some pieces of wood, which have been split by the wood chopper. The horizontal line at the top of the large room has suspended from it small round objects which denote some kind of food; and at the middle line, the shelf, used as a bed or for seat, shows three persons; the first one, with one leg hanging down, is pointing, or reaching, toward a dish containing food, as the second has already placed some into his mouth. The third person is lying down, with legs curved and his head resting upon a pillow or bale of some material found convenient for the purpose. The person seated upon the floor does not seem specially occupied, and directly behind is a vertical line, upon which is a lamp, the usual method of constructing these being that of placing two soapstone lamps upon a crosspiece, so as to balance, the center of the latter being secured to a vertical stick.

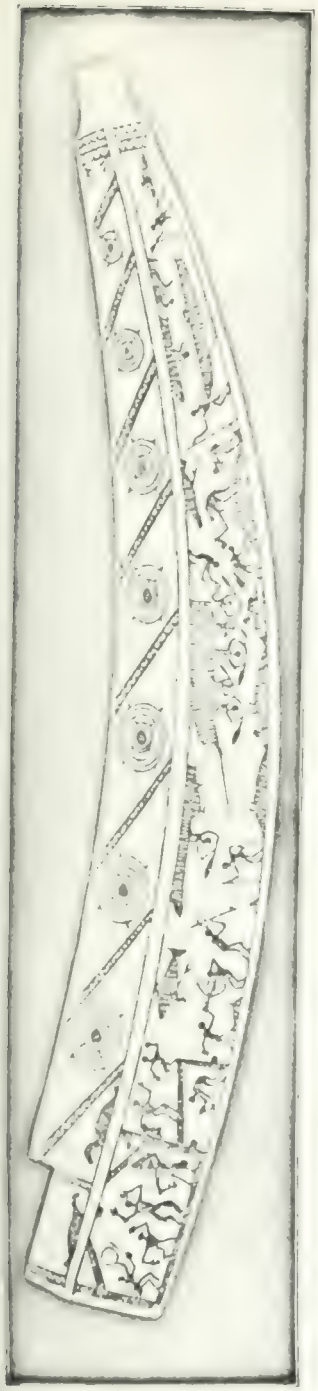
The last illustration denotes a dome-shaped structure with a smoke hole in the roof, one person being apparently busied with his pipe, while the other has before him a kettle, in which he is stirring with a stick or ladle. Between the two persons is the fire, from which the smoke is seen to rise and to escape through the opening at the top.

Within the small room of the house above mentioned is a short vertical line, to which are attached some small globular figures. The





DECORATED IVORY PIPE.





DECORATED PIPESTEM.

line represents the spout and is on the outside of the house, while the globules denote drops of water—similar to those portrayed on the pipe with the metal bowl, plate 61—and refers to the melting of the snow upon the roof, as the approach of spring is referred to especially. On the opposite side of the specimen, the first character is a man, with a bundle on his back, running in the direction of an inclosure and deer drive. Two reindeer are already in the pen, while three animals are running toward it, closely pursued by the drivers, one of which is armed with bow and undoubtedly also arrows.

The third person, walking along the upper base line, is in attendance at a fish trap, into which four fish are seen to swim. Beyond this is a tall pine, upon the summit being a bird, and half-way up, a small mammal.

The scaffold beyond this has upon the roof a man engaged in hanging up deer, which have been captured and brought home by the two men at the dog sledge, upon which is another deer. Immediately above these figures is a man leading a dog hitched to a sled and thus dragging home two seals—the latter represented upon their backs, just as these animals are gotten along easily on account of the abundance of hair. A large bear is shown upon his haunches, one native attacking him with a spear, while the second person has started to run away after shooting an arrow into the bear's back. The remaining two figures denote two kinds of traps used in catching small animals, one being caught by a noose, while the second is a deadfall.

Upon the upper base line, beginning nearest to the tall pine tree already described, one man is shown attempting to take a somersault, possibly as a pictorial portrayal of the sense of joy at the return of summer; the second person has a rod which he is dragging home. The two dogs are very cleverly portrayed, while the man next to the left is spearing an otter. The animal upon the ground seems to be intended for a marten.

A clever sketch is presented in the next illustration, in which a native, with a pack on his back and a small bucket in his hand, is gathering berries.

The record ends with a deer, which has been secured by means of suspending a strong noose over a path or trail frequented by the animal. The hunter has come up to kill the captive with a spear.

The decorative designs are treated of elsewhere.

The specimen shown in plate 63 measures $10\frac{5}{8}$ inches in length, $1\frac{1}{2}$ inches in height at the highest part near the bowl space, and seven-eighths of an inch in diameter.

This differs from the other pipes in the manner of placing the engravings, these occupying the lower spaces, while the upper bear the concentric rings and diagonal lines. The left-hand figure in the upper illustration in the plate denotes a habitation with its entrance. Seated upon the projecting shelf seat is the drummer, holding the tambourine drum in one hand while with the other he grasps a drumstick. The

other figures are the dancers, in various attitudes, with hands and fingers extended. Upon the roof of the entrance are two men in similar attitudes, while within the entrance is one figure of a man in the attitude of falling forward upon the ground. The dance does not appear to be a shamanistic ceremony, as otherwise the indication of a demon would be observed.

In front of the entrance is a group of figures in a threatening attitude, especially one of the men, who appears to be drawing his bow with the intention of shooting his vis-à-vis, who has a hand up as if guarding his face. There appears to have been a discussion respecting a seal—lying upon the ground between the men—which resulted as suggested.

The next figure is shown in the attitude of spearing a seal in the water, the spear bladder being shown at the upper end of the weapon. The next man is dragging home a seal, while the next following is engaged with a like animal, stooping down at the tail and for some purpose not indicated.

The large creature lying upon the base line, next to the right, is a whale. One of the hunters has a hatchet and is cutting up the animal, while the two assistants are otherwise engaged at either end. Next toward the right, is another hunter in the act of dragging along upon a sledge his kaiak. The last person to follow has upon his sledge a seal which has been captured.

Apart from the ornamentation in the upper ridge, there are two seals visible at the left.

Upon the reverse side of the pipestem shown in the lower figure in plate 61, the regular ornamentation occurs likewise along the upper face, only two compartments at the extreme right being reserved for the figures of seals.

Beginning at the right-hand end, and with the lower plane, a habitation, similar to the one upon the opposite side, is portrayed, the only difference being that there are two human figures drawn within the entrance to the home instead of one.

Another figure of a man is upon the outside, seemingly leaning against the door, while behind him are two men in mortal combat, one preparing to thrust his spear, while the other has a drawn bow with arrow directed forward toward his victim. Some plants are shown upon the ground, which may have been the cause of the quarrel which seems to be indicated.

Doctor A. Warburg, of Florence, Italy, kindly sent me sketches taken from a pipe similar to the preceding, which he found in the collection of the American Museum of Natural History in New York City. An interesting pipe from St. Michaels is in the collection of the Georgetown College, Washington, District of Columbia. The story told by the etchings is the same as in plate 62, and it appears as if a certain person, or persons, were the author of all of these examples, the

characteristics of the etchings being the same, as well as the general import of the narrative. In the Georgetown College specimen, however, the base line above or against which are shown the figures in various pursuits and avocations extends from the front or bowl end spirally around the stem back to the mouthpiece. This is unique so far as known, and appears to be simply a fancy on the part of the maker to cause quicker sale of the specimen, nearly all of this class of ivory workmanship being made for sale to visitors.

Plate 24, fig. 2, is a triangularly-shaped drill bow from Sledge Island. It is 13½ inches in length. The three sides are very fully decorated, the back of the bow bearing the greatest amount of work. The three square figures at the left represent scaffolds, upon which storehouses are located. Between these are two elongated figures representing winter habitations. Upon the house at the left are four human figures in various attitudes of gesticulation. The thin vertical line at the right of the entrance, having a small transverse scratch at the top, denotes a votive offering, indicating that one of the occupants of the house was lately deceased. Five men are seen under and about the second storehouse. Upon the next or second habitation from the left are four human beings, the larger being on all fours, as if in the attitude of watching those just mentioned. The next figure is occupied with some small object at a fire, the smoke of which is seen rising.

Of the two succeeding figures, one is apparently holding a line, while the other appears to be occupied in some gymnastic performance. Beyond the next storehouse is another habitation. Beside the two human figures will be observed smoke issuing from the fire, and a rack upon which are suspended some objects, possibly meat, or some other materials. The fourth habitation from the left, somewhat larger and more rudely drawn than the preceding, also has upon the roof five individuals, with arms and legs in various attitudes. The two vertical lines with a horizontal pole between them represent a meat rack, and the other lines indicate meat or fish. The six human figures immediately to the right of this meat rack are placed so that the heads point toward the center of the record, while the feet of three rest on the bottom base line, and the feet of the other three on the top base line. This is intended to represent the idea of a circle, as the individuals are engaged in a ceremonial dance. One of them, evidently the shaman, is shown with three lines projecting from the head, possibly indicating a mask. From this point to the right end of the drill bow the record occupies both top and bottom lines of the illustration. Upon the dwelling to the right of the dancers are four human figures, one with a spear directed toward a deer, while the individual on the top of the roof is pointing with one hand toward the animals, and his companion has both arms raised in exclamation. The square elevated structure, adjoining the house, represents a storehouse. At the top of the rod, above these human figures, is a man dragging home a seal which he

has captured, while in front of him stands a reindeer which is being shot at by a native who is armed with bow and arrow. A little farther to the left, upon the same line, a man is lying flat upon the ground with his gun directed toward the deer. Between the two elevated storehouses are eighteen natives in various attitudes, participating in a dance. At the right is a winter habitation, upon which an Indian stands with one hand elevated, the object in his hand evidently denoting a tambourine drum. A votive offering is shown over the entrance to the habitation, while to the right is seen rising a column of smoke. Upon the scaffold beneath the square part of the structure representing the storehouse is an inverted boat suspended for drying. A partly obliterated figure of a human being occupies the space between the storehouse and the end of the rod. The under sides of the bow are filled with figures of habitations, racks from which are suspended pieces of meat, and individuals occupied with various domestic duties. One portion of another part of the record represents an umiak going away from land toward some small objects which are believed to represent seal, while on the shore are represented four men dragging at a large animal, possibly intended to represent a seal, and in front of them a dog is hitched to another seal, dragging it home to the camp, possibly to the left.

Plate 64, fig. 3, also represents an ivory drill bow from Diomede Islands. The ornamentation shown at the left end of the illustration is an attempt at duplicating the peculiar zigzag markings, the simple form of which is shown in plate 31, fig. 4. The next oblong figure on four piles represents a granary or food storehouse. Next is shown a human being with his arms extended in the act of making some gesture. To the right of this is a building resembling a white man's habitation or trader's store. The mammal to the right of this represents a bear. Next come the figures of two walruses, and beyond the middle to the right is the outline of a large bear in the attitude of eating some mammal which he has captured at the seashore, apparently a seal or large fish. To the right of this is a very crude figure, somewhat resembling a whale, with the tail elevated and the head down, though from the "blowholes" there appears to be some spray ascending. The latter seems to be represented by dots instead of the usual short lines. To the right of this, upon the base line, is a long-necked animal denoting a seal, and beyond, at the extreme right, is a granary or storehouse elevated upon piles. Turning the specimen so that the upper line becomes the base line there will be observed at the left, to the right of the granary just mentioned, a figure of a seal, next two fair outlines of trees, and a walrus. The pointed figure, almost triangular in shape, appears to denote a summer habitation. The character in the middle of the record, apparently a scaffolding, is not clearly determinable, as it seems to indicate from one point of view a granary upon a scaffold, but the projection at the left with two short vertical lines

depending therefrom suggests an attempt at denoting some form of animal, which seems obscured by the square structure attached to the opposite line. A little farther to the left is the figure of a man with arms outstretched, and beyond this the body of a walrus with huge tusks. On the opposite side of the record, at the extreme right, is portrayed a rock projecting from the sea, upon which are resting four seals. A short distance beyond these is seen an umiak, and toward the left a whale, from above the head of which is indicated by simple little triangular dots an explosion of spray, as is shown in the figure upon the opposite side of the drill bow. This is of peculiar interest, and indicates either inexperience in portraiture on the part of the native artist or a high degree in conventionalizing. The remaining figures can be readily determined and need no further interpretation. Upon the narrow convex edge of the bow in the center of the entire record is the outline of another whale with the triangular dots for spray being arranged a little nearer together so as to approach more nearly the usual method of indicating spray or water thrown from the blowholes. To the right of this is a walrus and five seals, while to the left is a seal with its young on its back, and other characters readily determinable by the reader without further explanation. The bottom of the bow bears a continuous series for more than half of its entire length of conventionalized seal heads, indicating ornamentation rather than an attempt at a historical record.

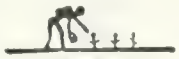


Fig. 70.
PICKING BERRIES.



Fig. 71.
CUTTING UP A WALRUS.

Fig. 70 represents a native picking berries. This illustration is of peculiar interest, as the nucleated circles upon the short leaved stems denote the fruit. The same figure with the blossom, in which the three short radiating lines are added to denote the flower, is shown on plate 46 in the powder measure. Upon this too are the short lines running downward from the ring on the measure, to which are attached three berries, i. e., three nucleated circles.

The engraving represented in fig. 71 is selected from a series of charac-



Fig. 72.
CUTTING UP REINDEER.



Fig. 73.
CUTTING UP REINDEER.

ters on an ivory drill, locality unknown. The horizontal body represents a walrus, lying on its back, being cut up by the two men, the one at the left hand using a cleaver, while his companion is otherwise engaged at the head of the animal. The artistic execution, apparent, is extraordinarily good; the lines being deep single creases, indicating the engraver to have been thoroughly experienced in the use of the graver.

Two illustrations of natives cutting up reindeer are shown in figs. 72 and 73. Both are very cleverly drawn, the limbs of reindeer being very naturally indicated, as assumed in dead animals.



Fig. 74.
CATCHING FISH.

A very clever sketch of a native fishing through a hole in the ice is shown in fig. 74. The hole is indicated by a small circle while the ice itself is not shown—that being transparent. One fish has already been caught, as shown above. The absence of lines to denote ice is similarly evident in the Kolguev illustration on plate 10.

A seal caught through the ice is shown in fig. 75, the hole being shown back of the hunter by the single form of a loop, as in the illustration referring to seal spearing, fig. 76, where the hole is again indicated by a circle on the ice line.

This scene is taken from the Chuckche chart, though the drawing is evidently of Eskimo type. The small loop above the nose of the seal is simply an indication that there is a hole in the ice, made by the seal for breathing.



Fig. 75.
CATCHING SEAL THROUGH THE ICE.

A like specimen of Alaskan work is shown in fig. 77, where only the surface of the ice is shown, and the figure of animal is absent—beneath the surface.

The artistic execution of the several objects portrayed in fig. 78 is rather crude. The two summer habitations or tents at the left have between them a long pole from which are suspended cords for the reception of fish for curing. The person engaged in hanging up this article of food is drawn in a crouched or seated manner, not because he or she was so seated, but because the figure was made too large for the space within which to represent it in an upright position. Figures in a seated posture are always placed in contact with the surface upon which they are presumed to be so located, either upon the ground, in a canoe, or on a projecting shelf inside of the dwelling. The circumstance of a sick person being brought before a shaman for treatment is quite different, as in such instances the human figure is drawn as if lying down and may not be in contact with the ground.



Fig. 76.
SPEARING SEAL.



Fig. 77.
SPEARING SEAL.

The tree-like figure at the right of the tent is smoke arising from the fire. The two roofed buildings are built in imitation of the habitations of white traders, one of them having a door at the side, and a covered portico, or platform, at the side.



Fig. 78.
CURING FISH.

The scene on the flat piece of bone shown in fig. 79 represents several subjects. In the upper half, at the right, is a summer shelter, within which are two figures. One is seated upon the floor, while the

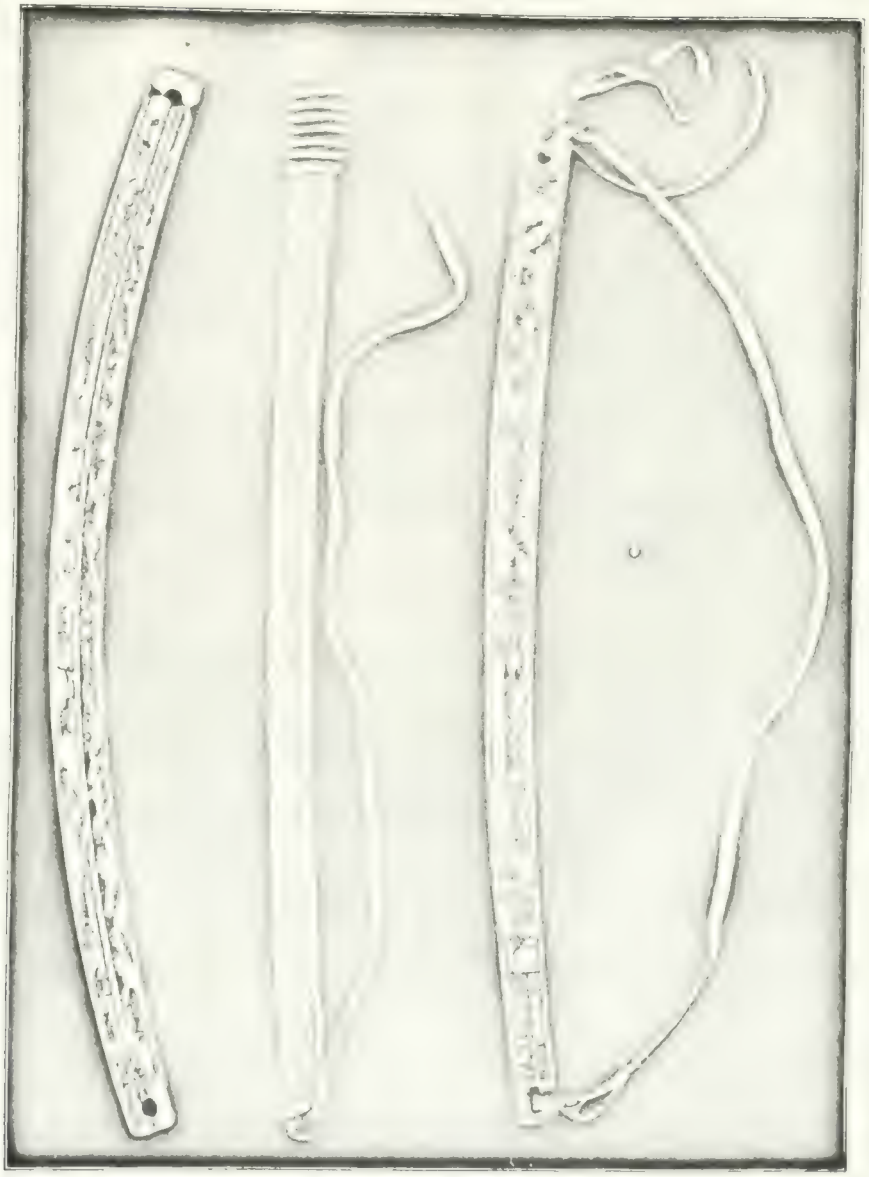
EXPLANATION OF PLATE 64.



Fig. 1. DRILL BOW WITH THREE FACES, ORNAMENTED WITH PICTOGRAPHS.
(Cat. No. 38887, U. S. N. M. [Accession number in record book is 38886.] From north side of Norton Sound. Collected by E. W. Nelson.)

Fig. 2. DRILL BOW STAINED WITH AGE.
(Cat. No. 63622, U. S. N. M. Diomede Islands. Collected by E. W. Nelson.)

Fig. 3. DRILL BOW.
(Cat. No. 49163, U. S. N. M. Diomede Islands. Collected by E. W. Nelson.)



DRILL BOWS BEARING RECORDS.

EXPLANATION OF PLATE 65.

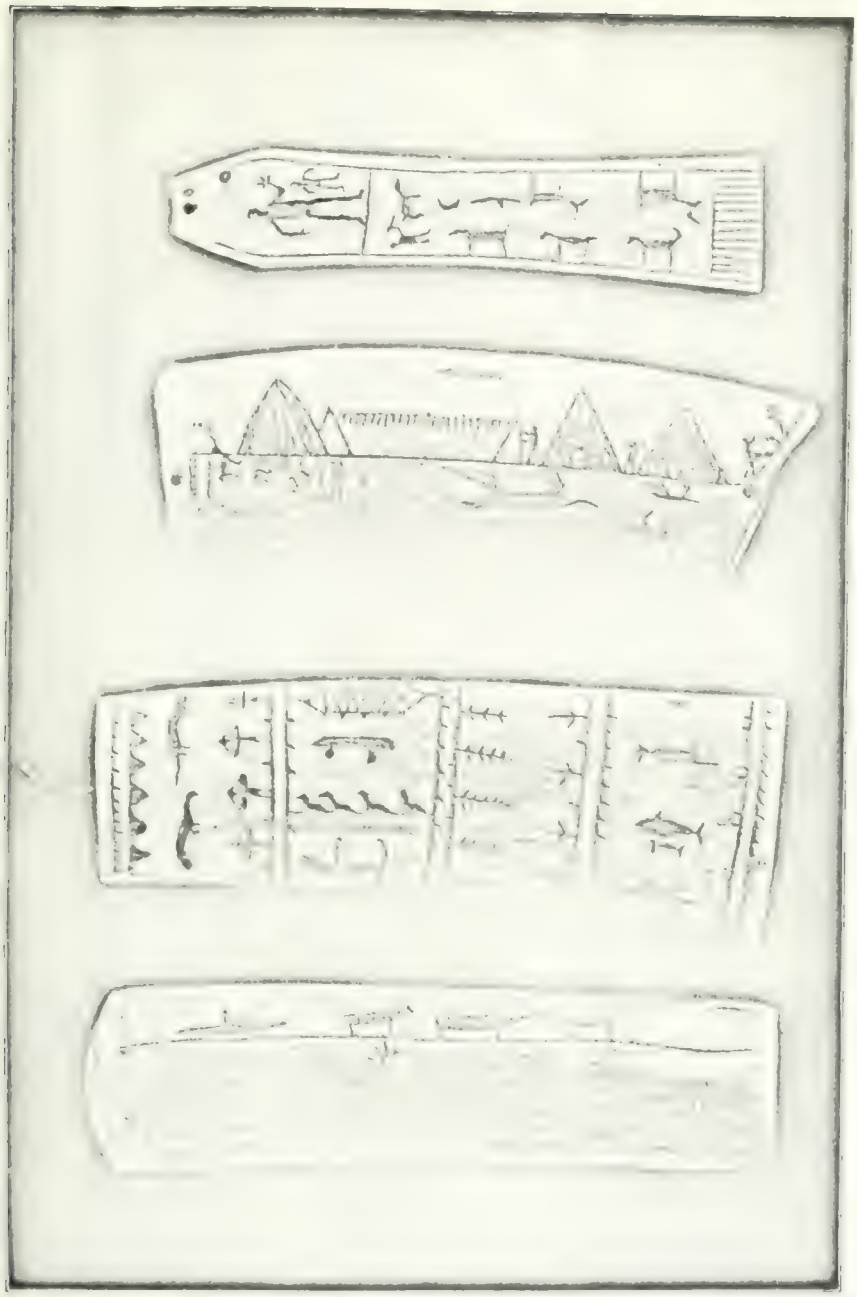


Fig. 1. Hunting Tally.
(Cat. No. 39437, U. S. N. M. Point Barrow. Collected by Lieut. P. H. Ray, U. S. A.)

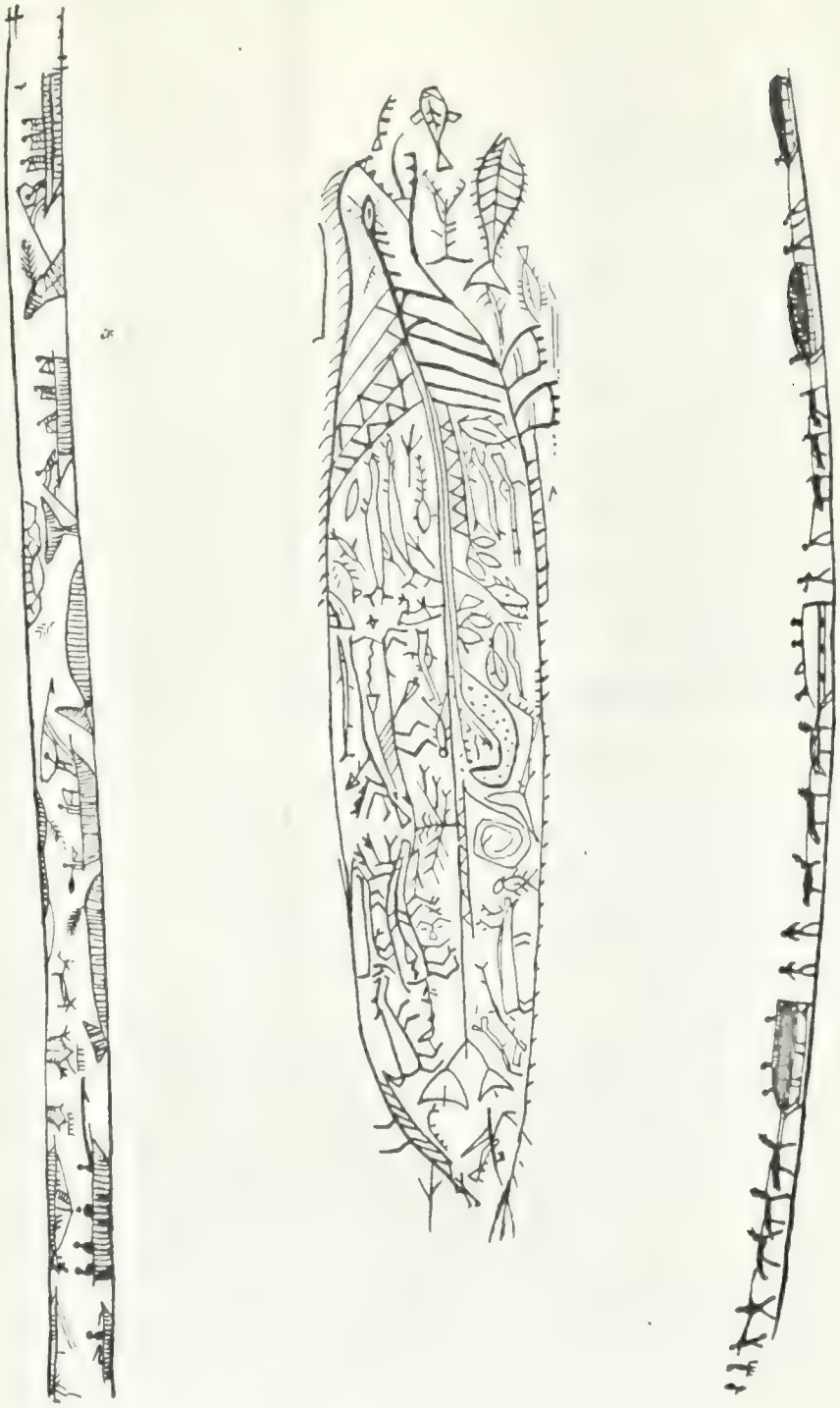
Fig. 2. Powder Horn of Antler.
(Cat. No. 129221, U. S. N. M. St. Michaels. Collected by L. W. Turner.)

Fig. 3. Ivory Box for Snuff, Fungus, etc.
(Cat. No. 64180, U. S. N. M. Hotham Inlet. Collected by E. W. Nelson.)

Fig. 4. Thread Case of Reindeer Horn.
(Cat. No. 56615. [Locality?] Collected by Lieut. P. H. Ray, U. S. A.)



ORNAMENTED CYLINDRICAL CASES.



3

RECORDS ON IVORY AND BONE.

other has his hands extended and elevated, as if calling attention to something of importance, or making the gesture for surprise. The tall tree-like object next to the habitation is a column of smoke arising from a heap of burning wood, visible upon the ground, while to the left, against the fire, is a kettle, in which some one is stirring with a stick. That the person is tired appears to be indicated by his resting his hand upon his knee as he leans forward toward his work. The rack, bearing a long horizontal pole, is next toward the left, and beneath it is a man hanging up fish, which has been prepared by the one at the fire. The individual has a piece of meat raised toward the bar, while before him is a vessel from which it was removed. The long net stretched from the left-hand scaffold pole to the end of the record is a gill net, a form used to set in shallow water and generally stretched at right angles to the shore line, in which manner more fish are intercepted than if it were parallel therewith.

The small projections above and below the net are floats and sinkers.

Plate 65, fig. 2, shows a powderhorn made of antler. It was obtained at St. Michaels. The specimen is decorated by incisions cut lengthwise, to both sides of which are attached various figures of animals, birds, and human habitations. The principal figure shown in the illustration represents three summer habitations, while one of the natives is occupied in suspending meat from a drying pole. At the left of this is a habitation beneath which is shown another habitation, inverted, in which are portrayed four human beings. To the left is a fox, or wolf, holding in its paws some small creature, evidently game which it has captured. The animal seems to be pursued by a bird of prey shown to the left, both having probably been hunting the same quarry.

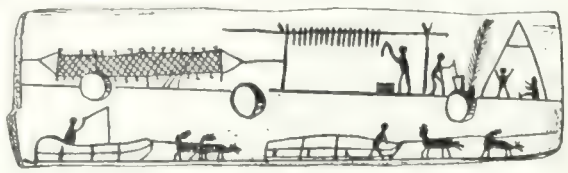


Fig. 79.

ENGRAVING ON BONE.

Plate 65, fig. 3, represents a so-called ivory box for snuff, though the specimen appears to be made of horn. This was obtained at Hotham Inlet. The specimen is divided into four different compartments by means of transverse lines, each line consisting of parallel incisions decorated as in plate 28, figs. 2 and 4. The spaces contain representations of fish, sledges, tree ornamentations, and various other characters, notably the outlines of a number of human beings, apparently dancers with rattles.

Plate 14, fig. 2, represents a bone or reindeer-horn specimen from St. Michaels. Upon the lower side, at the left, is represented a boat with four white men carrying out supplies from a trader's store, within which and behind the counter stands another man with a hat upon his

head. To the right of this is shown another hut, about which four persons are occupied in preparing food. One is standing over a kettle with a utensil in his hand, as if stirring, while another, to the right of the smoke, is in the act of reaching into the vessel over which he is occupied. At the extreme right is a meat rack. By turning the specimen upside down there will be observed approaching from the left a native pushing a sledge, to which are attached two dogs. In front is a native with hands lowered and extended, as if calling to urge forward the dogs. At the right is a scaffold which is in connection with an underground habitation. From the top of one of the smoke holes is seen rising a heavy cloud of smoke. Two natives are also portrayed, the one at the right with arms extended, as if making signals. To the left is an upright pole over the entrance of the habitation, which represents a votive offering.

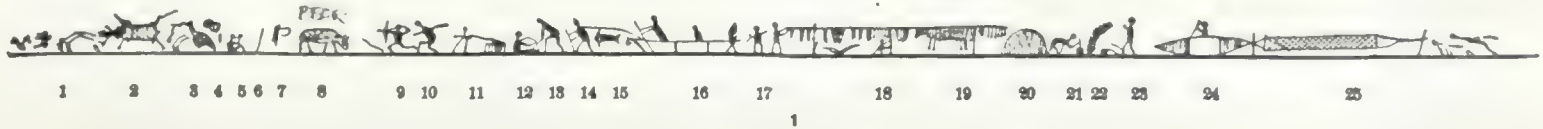
Plate 66, fig. 3 represents a kantag or bucket handle from Norton Sound. It is an old time-stained piece, and bears upon the lateral edges a few sharply incised figures, that upon the right or upper side denoting a procession of loaded sledges. The attitudes of the dogs following them, as well as of the men assisting, are very natural. Upon the opposite side of the middle are three kaiaks, on either side of which are a number of seals, while at the extreme left are two low mounds representing winter habitations.

In plate 67, fig. 3, Nos. 2, 3, and 4 indicate the summer habitations of some natives who had gone away to catch and cure salmon. The fish are drying upon the racks shown in Nos. 1 and 5; at the latter one the natives are hanging up fish, while at the other end of the rack is the ever present dog.

No. 6 denotes the boat with three men inside, while the fourth is towing the vessel toward shore.

The individual at No. 7 is making the gesture for calling attention to something which he has at his feet—probably a salmon. No. 8 is a native taking a skin of one of the dead animals, while Nos. 9 and 10 are also going to join in carrying venison, as shown by Nos. 11 and 12. The dog between the two last named seems to scent the meat. No. 13 is engaged in cutting up an animal, the cut in the abdomen being shown by two parallel horizontal lines. Nos. 14 and 15 are dead deer, over which the native at the last named is busied. No. 16 is lying flat on his stomach, holding a gun, as beyond the hillock, No. 17, he sees a herd of deer, some grazing and some lying upon the ground. The rack at 18 is where he had a camp at a former time, showing the locality to have been visited before.

The entire village appears to have turned out, as shown in plate 67, fig. 3, to aid in dragging ashore a whale, No. 1. Lines extend to either side, where groups of men are dragging at them, No. 2. The figures on the animal are cutting off pieces, one at the left or head end having raised a long slice of blubber or skin, while at the other end one of the



1



2



3



4



5

RECORDS OF DAILY AVOCATIONS.

men is receiving a piece from another; while still another, nearer the tail, is tossing a piece of the meat to a companion, whose arms are stretched out to receive it.

Still another pair of natives are occupied with a large piece lying upon the ground. At No. 3 is a habitation, and at No. 4 the man is getting ready his sledges to haul the meat back to the house, where the long vertical ridge poles indicate that the meat is to be suspended from them. The natives at Nos. 6 and 7 are also in the attitude of some occupation in anticipation of having meat to hang up at the scaffold at No. 6.

The inverted quadruped near the middle of the record, and above the rope, pertains to a record which was to rest upon the base line, on the upper surface of the same side, but which was not undertaken.

The men at No. 5 are apparently using sledge runners upon which to drag their umiak to the shore, so as to approach the whale from the water side to assist in cutting him to pieces.

Plate 67, fig. 3, represents a number of different avocations connected with the chase, and the artistic portrayal of the actions represented are peculiarly distinct and interesting.

The left end of the record is somewhat marred by wear, but the first character to be intelligible, No. 1, denotes the horns of a slaughtered reindeer, of which the skin, No. 2, is outstretched upon the ground. At No. 3 are represented the horns and forelegs of the animal, which have been dressed for transportation to the village. At No. 4 is the skin of a female reindeer, while at No. 5 is visible the hunter seated upon the ground and smoking his pipe. His gun and quiver of arrows are indicated at Nos. 6 and 7 respectively.

No. 8 denotes a bear which has been captured by the same hunter, whose figure is reproduced, and his companion. No. 11 represents a man engaged upon the section of a temporary shelter, while the individual at No. 12 is using a drill bow to rotate the stick, held by No. 13, in the act of making fire. Nos. 14 and 16 represent a boat's crew who landed at the camp or shelter just named. The first of the figures is dragging the boat along shore, the one in the stern aiding in poling. No. 15 is the figure of a fish to indicate the purpose for which the party is away from their own home.

At No. 17 is shown a man hanging meat upon the rack for drying, the strips of meat being visible the entire length of the horizontal pole to 19, which is the skin of a reindeer. The duties of No. 18 are not apparent, but he was evidently helping in the work of suspending pieces of meat. No. 20 is a winter habitation, before which is one of the inmates, No. 21, engaged in preparing food, or something that requires stirring. Before him is observed rising a column of smoke, No. 22, while at No. 22 is another kettle belonging to No. 23, who is also, apparently, going to assist in the culinary work. No. 24 is a canoe lying upon its side, so as to dry the bottom, and behind it is seen the owner engaged in cleaning and repairing the side.

The elongated figure at No. 25 is a fish net stretched out for drying. Other characters appear to have been made farther toward the right, but from use of the rod the surface has been worn so smooth as to obliterate them.

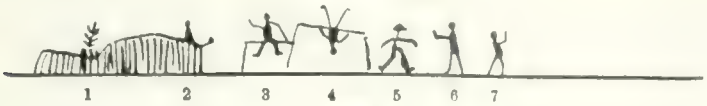


Fig. 80.

ESKIMO ATHLETIC SPORTS.

The etchings reproduced in plate 67, fig. 4, were copied from an ivory rod in the collection of the Alaska Commercial Company, and were interpreted by Vladimir Naomoff, a Kadiak half-caste referred to elsewhere. The left-hand figure represents a long rack from which a native has suspended reindeer hides, the person being portrayed at the right as in the act of descending from a short ladder. The dome-shaped figure is a habitation, before the door of which is a square figure—perhaps a kettle—from which smoke is arising. A native is next drawn in the act of shooting a reindeer, the arrows being shown as if sticking in its back. The continuous body with eleven pairs of horns indicates that number of animals. To the right are several reindeer down upon the ground, two having been shot with arrows, the native being again shown in the act of shooting toward a herd of ten reindeer, wounding one which afterwards attacked him, and which he caught by the horns, as shown at the extreme right end of the record.

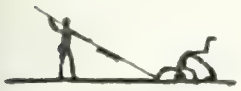


Fig. 81.

NATIVE ATHLETE.

The figure of the habitation No. 1, shown in accompanying illustration fig. 80, has above it at the left a character resembling a cedar tree, but which denotes smoke. This resembles also the character to denote spray or water as spouted by whales, illustrations of which are found elsewhere.



Fig. 82.

NATIVE MAKING A BOW.

The individual seated over the entrance to the habitation, No. 2, is watching the amusements going on a short distance before him. Nos. 3 and 4 have made use of the fishrack poles for horizontal bars, and while No. 3 is astride of his and gesturing with his conversation with No. 2, No. 4 is making a turn.

The person indicated in No. 5 is preparing to run, the two remaining figures in Nos. 6 and 7 acting, perhaps, as coachers.

Fig. 81, taken from the engravings on the ivory pipestem represented in plate 61, shows a native in the act of standing upon his head or taking a somersault. The representation is unique, and nothing approaching this kind of athletic sport has been elsewhere found upon the specimens in the collection.

The seated figure in fig. 82 is holding with one hand a piece of wood

from which he intends to make a bow; the other hand holding an adz with which the greater part of the superfluous material is removed ere beginning the final cuts and scrapings to produce the ultimate form on surface.

The illustration of two men wrestling is reproduced in fig. 83 from the pipestems shown in plate 62. The attitude of the men is realistic, and shows the clinch in a "catch-as-catch-can" contest.



Fig. 83
NATIVES WRESTLING.

This, fig. 84, is also reproduced from the same prolific source, the pipestem, shown in plate 61. The man at the right has kicked the ball into the air, while his companion is ready to catch it, as is shown by the outstretched hands.

Two men engaged in gambling are shown in fig. 85. That they are sitting close together is indicated not only by their apparent proximity but furthermore by the representation of the foot of one man extending beyond the back of his vis-a-vis.



Fig. 84.
FOOTBALL KICKED BY NATIVE.

Whether the game is played with cards, with sticks, or some other materials, is not determinable.

The illustration in fig. 86 is not of uncommon occurrence in records of dances, those so indicated being the observers and not the participants in the ceremonials. The pipe represented in the native drawing is the Siberian pattern, an Eskimo reproduction of the general type being shown in plates 61 and 62, in which the bowl is a vertical stem with a broad, rather flaring top with but a narrow and deep perforation, resembling the Chinese pattern in respect to the small quantity of tobacco which the smoker can consume at one filling.



Fig. 85.
NATIVES GAMBLING.

The effect is attained, however, as Mr. Murdoch informs me "that the smoker will take a deep inhalation of smoke—and vile smoke it is, generally—retaining it for a considerable time until he is compelled to take breath, when another similar inhalation of smoke is taken. This is repeated until the small charge of tobacco is consumed. The result is a most violent fit of coughing, becoming spasmodic and of such apparently painful character as to lead one to believe that the poor victim is going to die at once."

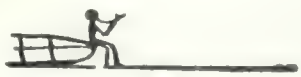


Fig. 86.
NATIVE SMOKING PIPE.

Many of the Indian tribes practice like inhalations of smoke, the usual combination among the Dakota tribes consisting of various kinds of purchased tobacco mixed in varying degrees with the inner red bark of the red osier *Cornus stolonifera*, or the leaves of Uva Ursi, found along the elevated lands of the upper Missouri and Yellowstone rivers.

The bark or the leaves are chopped up finely in the proportion,

usually, of two to one of tobacco, rubbed together in the palm of the hand and packed into the deep, narrow tube of the Catlinite pipe.

The outer or dry part of the lips only are placed against the pipe-stem, and the moment a deep long pull is taken the outer corners of the mouth are slightly opened, without removing the lips from the tip, and a deep breath taken in order that as the air enters the mouth some of the smoke held therein passes along down the trachea into the bronchial tubes, entirely filling the lungs. The expiration is performed by expelling the smoke through the nostrils, at the conclusion of which another deep draw at the stem followed by a like inhalation, this being continued with the regularity of ordinary breathing, at each inspiration smoke passing along with the air into the lungs.



Fig. 87.

DANCE.

Frequent coughing spells result and bronchial troubles are very common among the males. The opportunities for close observation were especially good during the writer's detail as surgeon at a military station at a time when the number of Indians upon the ration roll was 13,500, and personal experience was abundant also, both in the method of making and the acquirement of a severe attack of bronchitis, though of but limited duration.

The group represented in fig. 87 is actively engaged in a dance, the various attitudes indicating considerable exertion. The seated figure is holding aloft his shaman tambourine drum, the stroke across the disk indicating the stick with which he produces the percussion.



Fig. 88.

DANCE AND FEAST.

The larger figure at the right is the chief officiating personage, and is engaged in chanting. One hand is directed toward the drummer, while the other is held aloft, in the act of supplicating aid from his daimon or guardian spirit.

Fig. 88 is one of the very few illustrations of dances, and is perhaps the only one that seems to be of a social character, in consequence of a successful hunt.

No. 1 is a man making the gesture for *here, at this place*, having reference to the village of which he is an inhabitant and of which the houses are, in part, shown in Nos. 18, 20, 22, 24, and the storehouse, No. 23. No. 2 is obliterated, and although it appears to resemble a human figure, it is more probably a peak, similar to the ones shown in Nos. 3 and 7. Nos. 4 and 5 are the hunters who, in the shelter of the hill No. 7, are crawling up to within shooting distance of the deer,

resting upon the ground at No. 8. No. 6 denotes a bow and two arrows, while another arrow, carried by the rear hunter, is shown above and between the two figures.

The next portion of the record pertains to the feast given at the dance, the latter being graphically portrayed in Nos. 9–17. The drummers are indicated at either end of the group of dancers, the one at No. 9 being seated upon the ground. Nos. 10 and 11 are rather more violent in their attitudes than Nos. 12 and 13. No. 12 is shown with the right hand to the mouth to denote the gesture to eat, while with his left he is pointing in the direction of the feast awaiting them. No. 13 is indicating himself, and also points to the same place as No. 12, indicating that he too will be there. No. 14 is also shown as making the gesture to eat, eating, or food, while with the other hand thrown backward is pointing in the direction of the habitations. No. 15 seems to be acting in the manner of an usher, holding both hands toward the place of the food, as if inviting the others to go.

No. 16 is shown with his hands up, a common attitude given to persons portrayed as dancing or other excitement, such as surprise or alarm in hunting, etc., while No. 17 has risen from his place and is using the drum, similar to the one at No. 9. The summer habitations are shown in Nos. 18, 20, and 22, the persons indicated between them being members of the households near which they are represented.

No. 23 is a scaffold storehouse, while No. 24 denotes a winter or permanent habitation, with one of the inmates on the roof.

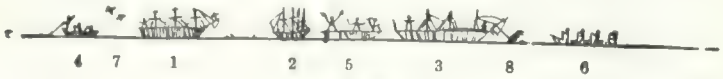


Fig. 89.

WHALING SHIPS AND BOATS, AND VISITING NATIVES.

In fig. 89 is portrayed an event which seems to have been of interest to the recorder, or owner of the record. Nos. 1, 2, and 3 are whaling ships; from No. 2 is observed a feather-like figure rising from the deck, between the main mast and mizzenmast, which denotes smoke rising from the fire used for boiling blubber. At No. 3 the line is secured to walrus, which is being hauled aboard.

Nos. 4 and 6 represent ships' boats, while No. 5 is a native canoe, the recorder being indicated at the stem of No. 5, in the act of making a gesture with his left hand, and pointing with his right toward the direction of the ship No. 1, upon which are two men, the one upon the bowsprit of which is returning a gesture sign.

The man at the stern of the last-named ship is also making a hailing sign to the canoe men at No. 4.

The two crosses at No. 7 are birds, while No. 8 is the walrus which has been secured by the crew of ship No. 3.

In fig. 90, Nos. 1, 2, and 3 represent whaling ships at anchor, the middle figure being somewhat obliterated by the wearing away of the

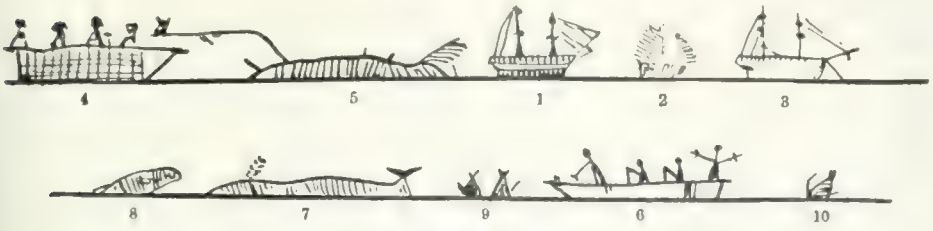


Fig. 90.

WHALEHUNTERS AND SHIPS.

ivory of the bow. The anchor chain is seen at No. 3. Nos. 4 and 6 are the ships' boats in pursuit of whales, the specimen at No. 5 having been harpooned, while in No. 6 the hunter is reaching down to grasp the harpoon, the open hand being clearly indicated. No. 8 is a killer whale, while Nos. 9 and 10 denote seals diving into the sea.

PICTOGRAPHIC RECORDS.

This collection of records pertains more particularly to individual exploits—hunting and fishing, traveling and combat. It is practically impossible to classify all of the records or to relegate them to a specific subject, as the subjects are frequently not on one single theme, but embrace a number of ideas upon the same continuous face of ivory; therefore the records are necessarily classified according to the import of the majority of characters inscribed.

In the accompanying series presented below there appears to be more allusion to individual performances than the record of an indefinite number of people.

INDIVIDUAL EXPLOITS.

The carving shown in fig. 91, made of a piece of walrus ivory, was copied from the original in the Alaska Commercial Company, San Francisco, California, and the interpretations were verified by Vladimir Naomoff, a Kadiak half-breed, to whom reference has already been made.

No. 1 is a native whose left hand is resting against the house, while the right is directed toward the ground. The character to his right represents a "shaman stick" surmounted by the emblem of a bird—a "good spirit"—in memory of some departed member of the household. It was suggested that the grave stick had been erected to the memory of his wife.

No. 2 represents a reindeer.

No. 3 signifies that one man, the designer, shot and killed another with an arrow. The elbow of the arm drawing the arrow is seen projecting behind the back, illustrating close observation on the part of the artist.

No. 4 denotes that the narrator has made trading expeditions with a dog sledge.

No. 5 is a sailboat, although the elevated paddle signifies that that was the manner in which the voyage was best made. The conspicuous and abrupt stem specifies that it was a heavy boat, for use in sailing, and not a baidarka.

No. 6 represents a dog sled, with the animal hitched up for a journey. The radiating lines in the left-hand upper corner of the square containing the pictograph are the rays of the sun.

No. 7 is a sacred or ceremonial structure. The four figures at the outer corners of the square represent the young men placed on guard, armed with bows and arrows, to keep away those not members of the band, who are depicted as holding a dance. The small square in the center of the inclosure represents the fireplace. The angular lines

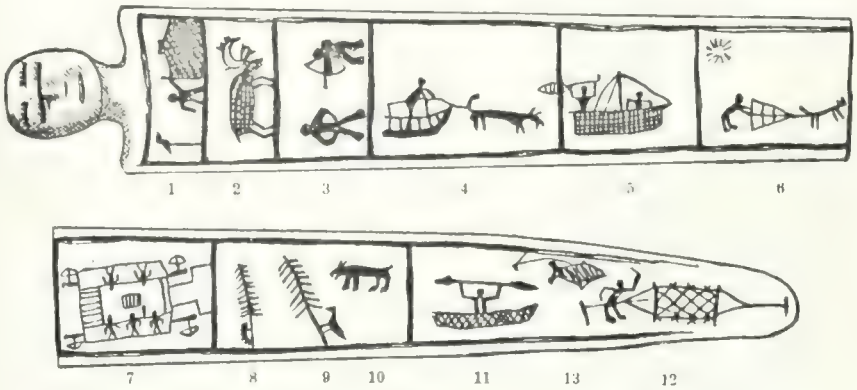


Fig 91.

RECORDS CARVED IN IVORY.

extending from the right side of the structure to the vertical partition line show in outline the subterranean entrance to the structure or lodge.

No. 8 is a pine tree, upon which a porcupine is crawling upward.

No. 9, a similar species of tree, from the bark of which a bird [woodpecker] is extracting larvæ for food.

No. 9 is a bear.

No. 10 represents the owner of the record in his boat holding aloft his doublebladed paddle to call for help to drive fish into a net.

No. 11 is an assistant fisherman, one who has responded to the call, and is observed driving fish by beating the water with a stick.

No. 12 represents the net which, as is customary also among many of the tribes of the Great Lakes, is usually set in moderately shallow water.

No. 13, the figure over the preceding character, denotes a whale, with line and harpoon attached, which was caught by the fisherman during one of his fishing trips.

A man in a kneeling posture, about to throw a spear at an animal, is shown in fig. 92. The attitude is lifelike and the sketch well made.

An illustration of shooting a reindeer is shown in fig. 93. The man is lying upon the ground and is using a gun instead of a bow and arrow.



Fig. 92.
THROWING HARPOON.

The illustration given in fig. 94 is a remarkably clever bit of engraving, especially in the attitude assumed by the native in drawing the bow. The arrow has already been discharged and is on its message of death, but a short distance from the head of the animal. Immediately in front of the hunter is a mound upon which is a tree, behind which the hunter approached to within shooting distance. The animal is drawn facing the hunter to indicate the fact that it was secured.

The flatness and absence of markings upon the mound indicate the difference between it and a winter habitation.



Fig. 93.
SHOOTING REINDEER.

The bag handle shown on plate 58, fig. 2, presents three panels, on which are portrayals of natural objects. The separating lines consist of pairs of vertical zigzag markings, while the front panel bears the figure of a hunter armed with a bow and arrow in pursuit of reindeer, one of these animals being indicated in each of the two remaining panels.



Fig. 94.
HUNTER SHOOTING REINDEER.

The two individual characters represented in fig. 95 as Nos. 3 and 5 are intended to denote the same person. The one, as No. 3, is the hunter armed with bow and arrow, and by hiding himself behind the tree, No. 2, he was enabled to shoot the buck, No. 1, when the latter had kept on grazing to within proper range. Being hidden from view of the doe, No. 6, by the hill, No. 4, the hunter imitated the call of the male, thus bringing within range the female. The figure in No. 5 represents, as above stated, the hunter, but in this additional form in order to give



Fig. 95.
HUNTING DEER.

him the gesture of calling or beckoning with the left hand, in the direction indicated by the extended right arm and hand, the attitude of the animal also showing that it followed. The hunter has projecting from his mouth a short black line, denoting voice, produced by whistling or a decoy whistle.

The sketch shown in fig. 96 is of interest on account of the indication shown by the artist that the reindeer is wounded and can not

escape being shot by the hunter. The animal is placed in an attitude as if backing, the legs drawn so as to project slightly to the front to denote its inability to progress in that direction.

The short line in the hand of the middle hunter is an arrow, which is being held toward the one shooting. The figure at the left is quietly observing the scene, smoking his pipe.

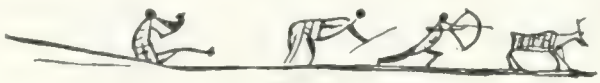


Fig. 96.

HUNTERS AFTER A REINDEER.

A clever and cleanly cut illustration is reproduced in fig. 97, representing a hunter in his baidarka, paddling toward an ice pan upon which is quietly reposing a walrus.

All the figures are heavily incised by vertical lines, the ice alone remaining as a hollow outline to indicate its transparent or translucent condition.

The illustration of the two sides of a piece of ivory, fig. 98, is from Utkiawiñ, in the Point Barrow region of Alaska, and is described by Mr. Murdoch[1] as being a piece of an old snow-shovel edge with freshly incised figures on both faces, which the artist said represented his own record. "The figures are all colored with red ocher. On the obverse the figures all stand on a roughly drawn ground line. At the left is a man pointing his rifle at a bear, which stands on its hind legs facing him. Then comes a she-bear walking toward the left, followed by a cub, then two large bears also walking to the left, and a she-bear in the same attitude, followed by two cubs, one behind the other. This was explained by the artist as follows: 'These are all the bears I have killed. This one alone (pointing to the "rampant" one) was bad. All the others were good.' We heard at the time of his giving the death shot to the last bear as it was charging his comrade, who had wounded it with his muzzle-loader. On the reverse the figures are in the same position. The same man points his rifle at a string of three wolves. His explanation was: 'These are all the wolves I have killed.'"

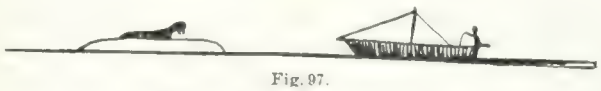


Fig. 97.

HUNTER APPROACHING WALRUS.

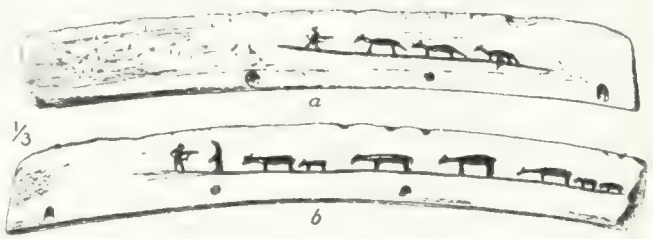


Fig. 98.

HUNTING SCORE ENGRAVED ON IVORY. (AFTER MURDOCH.)

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–'88, 1892, p. 362.

Plate 59, fig. 3, shows a drill bow from Norton Sound. The ornamentation upon one side consists of eleven wolves, while on the other side is represented a herd of reindeer, the herd being divided into two parts, between which is shown the figure of a wolf.

It may be that the above instance records the fact of the owner being a successful hunter, and thus records a successful exploit, though the uniformity in outline of the animals suggests a tendency also toward ornamentation as well as portraying an occurrence.



Fig. 99.

HUNTING SCORE ENGRAVED ON IVORY (AFTER MURDOCH).

The fungus-ash box shown on plate 56, fig. 5, shows along the upperline of illustrations a hunter with throwing stick and weapon running after some birds which he is desirous of securing.

Upon the lower line the same person, perhaps, is shown behind a sledge riding his dog in pulling the conveyance.

When the box is reversed, there will be seen upon the upper line a clump of trees at the right, while to the left of these is a hunter kneeling in the attitude of shooting at a bear; behind the latter is another animal, perhaps a mate.

Upon the lower line is a ship, toward which two native boats are directed. The face at the left is apparently simply an attempt at caricature.

The hunting tablet found by Mr. Murdoch at Point Barrow, and before referred to, is represented in plate 65, fig. 1. The description given by him is in connection with the illustration given on plate 56, fig. 1, referring to the reverse of the tablet.

The accompanying illustration, fig. 99, and description is from Murdoch's report on the Point Barrow Eskimo,[1] and appears to be one of the four specimens brought back by him. The tablet is of ivory, 4.8 inches long and 1 inch wide. On each face is an ornamental border inclosing a number of incised figures, which probably represent actual scenes, as the tablet is not new.

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, p. 361 et seq.

Mr. Murdoch says:

The figures on the obverse face are colored with red ocher. At the upper end, standing on a cross line, with his head toward the end, is a rudely drawn man holding his right hand up and his left down, with the fingers outspread. At his left stands a boy with both hands down. These figures probably represent the hunter and his son. Just below the cross line is a man raising a spear to strike an animal which is perhaps meant for a reindeer without horns. Three deer, also without horns, stand with their feet on one border with their heads toward the upper end, and on the other border near the end are two bucks with large antlers heading the other way, and behind them a man in a kaiak. Between him and the animal which the first man is spearing is an object which may represent the crescent moon. The story may perhaps be freely translated as follows: "When the moon was young, the man and his son killed six reindeer, two of them bucks with large antlers. One they speared on land, the rest they chased I with the kaiak."

On the reverse the figures and the border are colored black with soot. In the left-hand lower row is a she bear and her cub heading to the left, followed by a man who is about to shoot an arrow at them. Then come two more bears heading toward the right, and in the right-hand lower corner is a whale with two floats attached to him by a harpoon line. Above this is an umiak with four men in it approaching another whale which has already received one harpoon with its two floats. The harpoon which is to be thrust at him may be seen sticking out over the bow of the boat. Then come two whales in a line, one heading to the left and one to the right. In the left-hand upper corner is a figure which may represent a boat bottom up on the staging of four posts. We did not learn the actual history of this tablet, which was brought down for sale with a number of other things.



Fig. 100.

ARROW STRAIGHTENER.

Mr. W. Boyd Dawkins figures an arrow straightener of walrus ivory (fig. 100) which is almost an exact reproduction in form of that shown in plate 8, fig. 1. The latter is from the Diomede Islands, and bears the figure of a reindeer only. That shown by Mr. Dawkins bears along one edge a row of reindeer, while at the opposite margin of the same side a series of seven figures, five of which resemble the human form, each with antler and headdress, and outstretched arms, from the sleeves of which are suspended what appears to denote fringe—short serrations. Two figures are placed in profile and in that position more nearly resemble reindeer rampant, though the characters are evidently intended to represent the same idea as that expressed in the five preceding ones.[1]

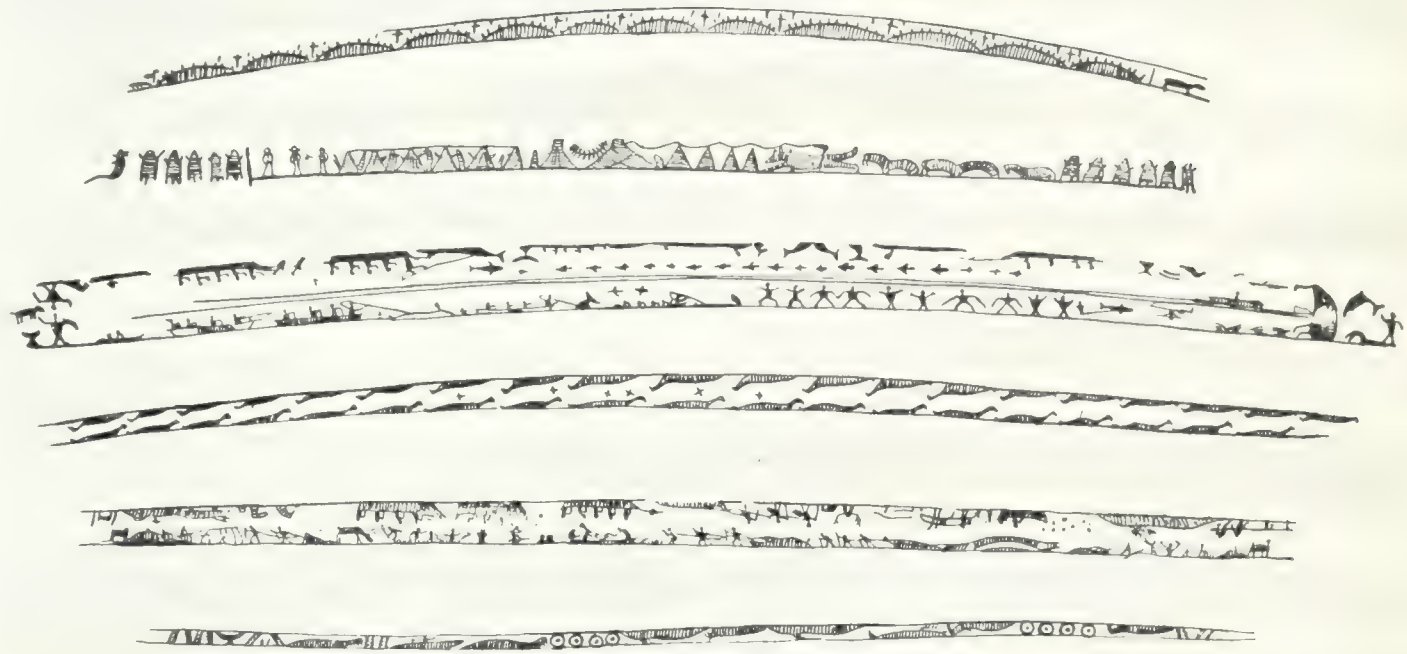
Another illustration from the same work and author relates to a hunting scene, two natives being represented as in pursuit of two reindeer, one of which has been shot and is lying down.[2]

[1] Early Man in Britain. London, 1880, p. 238, fig. 92. [2] Iden, p. 239, fig. 93.

Plate 22, fig. 1, represents an ivory drill bow from Kotzebue Sound. The implement is 15 inches in length and seven-eighths of an inch in width. Besides being undulating the specimen is polished down at intervals of 2 inches in such a manner as to represent or produce slight constrictions, as will be observed from the illustration. It represents a hunting record, the hunter or owner of the specimen being shown at the left in the attitude of shooting at a bear, which animal is accompanied by seven others of the same species. Some of these are separated by vertical lines, thus forming partitions in the record. At the extreme right is another illustration of whale hunting, and to intelligently understand the engraving the bow must be turned around. The hunter is here represented in his kaiak, above which is an irregular circle connected with the whale by a sharply defined line. This represents a harpoon cord and the seal-skin float which is usually attached to impede the progress of the captive. The whale is represented with great accuracy. Above the outline of the kaiak will be seen a native drawing a bow, the arrow being directed forward toward a flock of geese, numbering seven, one preceding the other, in a very lifelike attitude.

Plate 68, fig. 2, shows an old and age-stained specimen of ivory, also representing a drill bow, from Kotzebue Sound. The under surface is the one represented in the illustration. At the extreme left are five bear skins and a long-tailed animal which may denote the otter. To the right of the vertical line—the line denoting the separation between two records—are engraved the figures of three white men, or perhaps only two, as the two are of the figures portrayed with the rimmed hats. One of these is handing a small object to his companion, whose hands appear to be stuck in his pockets. To the right of this individual are six cone-like objects connected at the apex by a continuous line, and between which are rude upright objects resembling columns of smoke. These are summer habitations, with probably indications of smoke from the camp fires. In the middle of the record are two cone-like structures, denoting mountains, between which is a semicircle deeply engraved with short lateral lines representing a conventional tree symbol with branches at either end and upon the sides. The signification of this appears to be that between two mountain regions occurs an abundance of timber. This method of portraying an abundance of anything is very similar to a common practice adopted by many of the Indian tribes of the United States, especially the Ojibwa and some of the Shoshonian tribes.[1] The four triangular figures to the right represent huts, while a continuous line extends from the mountain toward the right and connects with a man disguised in a wolf skin. The signification of this is not clear. It may denote the act of a shaman in such disguise approaching the habitations and extracting something therefrom, or he may intend harm to one of the occupants; or it may

[1]Compare with portrayal of mountains and adjoining marsh on the "Chuckche Year record," in plate 81, at fig. 26.



RECORDS ON IVORY RODS.

signify that in this disguise he was enabled to approach walruses and shoot them. This method of disguise was practiced by some of the prairie tribes of Indians west of the Mississippi River. Many shy animals may thus be approached to within shooting distance, while the human form would at once alarm them and cause them to escape. Three walruses are drawn upon the record, and as their heads are placed in the direction of the human figure, it is believed that this is intended to denote their capture by the hunter, this practice being very common. On the contrary, had they not been secured, their heads would have been placed in an opposite direction. At the extreme right are six bear skins upon the ground, in an upright position, very much resembling the conventionalized figures of skins shown in plate 22, fig. 3.

On the opposite side or upper curve of the bow is a very rare character; in fact, the only instance observed in the entire collection in the possession of the National Museum in which the pudendum is indicated.

This character was referred to in conversation with Mr. Murdoch, who questioned the writer with reference to its occurrence in pictographs from Point Barrow. At the time of the conversation the engraving had not yet been observed. The creature immediately to the right of this is a walrus which has been harpooned, as the projecting weapon illustrates, and through it is the flying harpoon line connecting it with the hunter in the bow of a fine large umiak occupied by seven hunters. The next character is an umiak hurrying to the right in pursuit of a whale, the harpoon having been thrown forward and apparently into the animal. The next figure is that of a human being with one hand to his head and the other to his groin, the sharply incised line extending downward from the middle of the abdomen. The signification of this is not clear. Further toward the right are the outlines of two kaiaks, the shapes of which are very graceful, while only one shows the presence of a hunter, the other being incomplete. The record is concluded upon this side of the bow by the figures of two walruses.

Upon one side are a number of walruses and other animals, while near the left is the portrayal of a whale, to which the harpoon line and float seems attached. Some short figures are introduced to fill up the space. On the remaining side we have at the extreme left a seine net, to the right of which are several animals not identifiable with certainty, as the engravings are very crude on this record. A number of walruses, a whale, and a man in a kaiak occupy the greater portion of the remaining part of the record, while a single triangular habitation is shown, together with two crudely drawn figures of wolves.

Plate 24, fig. 1, shows a drill bow from Cape Darby, where it was collected by Mr. E. W. Nelson. It is of ivory, and measures 13½ inches in length. It is a hunting record, the story beginning at the right hand. The hunter is shown with gun raised, directed toward a herd of

reindeer. Above fourteen of these animals will be observed black spots denoting bullets, and indicating that that number of animals were shot The remaining five have no such marks, which indicates that that number were with the herd, but were not secured. The peculiarity of this unique record is the indication of the bullets, each denoting capture of the game, whereas in most other records from the same region the indication of the capture of game consists in the heads of the animals being turned toward the hunter; those animals seen and not captured being turned in an opposite direction.

By reversing the bow so as to bring to proper view the small figures at the left-hand upper corner, the reader will perceive at the left an elevated storehouse, to the right of which is a small mound representing a winter habitation, while next to the right of this is another structure of similar character. The main figure portrayed has a thin line extending from himself to one of the reindeer of the preceding group, indicating that another hunter captured it by means of a lasso or rope.

On the under side of the bow is a seal-hunting scene. At the left are five kaiaks, four of the hunters being represented with the paddle

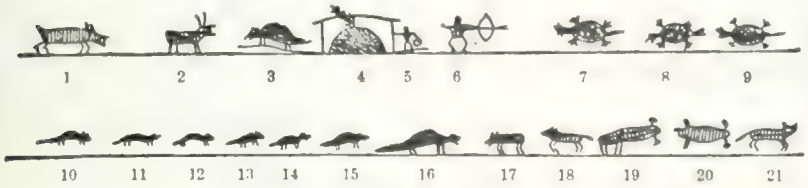


Fig. 101.

RECORD OF HUNT, ALASKA.

uplifted horizontally to indicate the presence of game and to call the attention of other hunters to the animals. To the right of the fifth boat is a fish. The next character represents a kaiak, the occupant of which also holds his paddle horizontally above him, as he is approaching two seals, and indicates to the occupants of the umiak to approach and capture them. One of the hunters in the umiak is portrayed with a gun. The figure at the extreme right represents a fish.

On the edge of this drill bow is a series of figures apparently intended to fill up the space. The twelve beginning at the left represent seals facing the right. Then come five larger animals facing the left, all of these apparently half in water, their projecting heads and bodies very much resembling some characters used for the portrayal of water fowl. The next character, which is T-shaped, is a conventionalized whale tail. The next character to the right is not sufficiently clear to admit of certain identification, but the next four represent deer. Beyond the vertical bar are sixteen rudely executed figures of seals.

Fig. 101 is a record of a hunting expedition, reproduced from an ivory drill bow in the collection of the Alaska Commercial Company, San

Francisco, California. The animals secured by the hunter are shown, as well as those observed by him during the trip, but not secured.

Nos. 1 and 2 represent deer; No. 3 is the outline of a porcupine, next to which is the habitation of the hunter, No. 4. Smoke is seen issuing from the roof of the hut, while at the door is the hunter's wife with a vessel, No. 5. At No. 6 is the outline of the hunter himself in the attitude of shooting an arrow, thus indicating the weapon used by him. Nos. 7, 8, and 9 are beavers; Nos. 10, 11, 12, 13, and 14 are martens; No. 15 is a vessel, according to the interpretation given by Naomoff, although there are no specific characters to identify it different from



Fig. 102.

HUNTING SCORE ENGRAVED ON IVORY. (AFTER MURDOCK.)

the preceding; No. 16 is a land otter; No. 17 represents a bear, while No. 18 is a fox; No. 19 is a walrus, the tusks being perceptible at the left side; No. 20 is a seal, while No. 21 represents a wolf.

As above remarked, the animals are all indicated; those with the heads turned toward the hunter were secured, while those with the head turned away from him were observed, but not secured.

The story told by the pictograph, together with the text in the Kiateχamut dialect of the Innuit language, is as follows:

Hui'nuna'gra hui'puqtu'a picu'qulu'a mus'quli'qnut. pamu'qtulit'

I (from) my place I went hunting (for) skins. Martens

taqi′mĕn, ami′daduk′ aχlaluk′, a′quia′mŭk piqu′a aχlaluk′;
five. weasel one. land otter caught one.
kuqu′lu′hunumuk′ aχlaluk′, tun′dumuk tú′guqli′ugu′ melu′ganuk′,
wolf one. deer (I) killed two.
pe′luk pinai′unuk, nu′nuk pit′quni′, maklak′muk pit′quni′,
beaver three porcupine (I) caught none. seal (I) caught none.
atshi′anamuk′ pit′quni′, uaqi′lamuk′ pit′quni′, tagn′χamuk′
walrus (I) caught none. fox (I) caught none. bear
pit′quni′.
(I) caught none.

In the collection from Point Barrow is one example, of which an illustration is here reproduced in fig. 102. It is a piece of the edge of an old snow shovel, and measures 4.2 inches long, with a loop of thong at the upper edge to admit of suspension. It is covered on both sides with freshly incised figures, colored with red ocher, and is described by Mr. Murdoch as follows:[1]

The obverse is bordered with a single narrow line. At the left is a man standing with arms outstretched, supporting himself by two slender staffs as long as he is. In the middle are three rude figures of tents, very high and slender. At the right is a hornless reindeer heading to the left, with a man standing on its back with



1/3

Fig. 103.

HUNTING SCORE ENGRAVED ON IVORY. POINT BARROW. (AFTER MURDOCH.)

his legs straddled apart and his arms uplifted. On the reverse there is no border, but a single dog and a man who supports himself with a long staff are dragging an empty rail sledge toward the left.

I find no mention of the use of any such scores among the eastern Eskimo. * * *

The engraving represented in fig. 103 is from a flat piece of the outside of a walrus tusk 9.7 inches long and 1.8 wide at the broader end. The engravings are very crude, when compared with some of the work from the west coast of Alaska. The specimen is one of the four pieces brought back from Point Barrow by Mr. Murdoch, and the following is his description.[2]

The figures are incised on one face only and colored with red ocher. The face is divided lengthwise into two panels by a horizontal line. In the upper panel, at the left, is a man facing to the right and pointing a gun at a line of three standing deer, facing toward the left. Two are bucks and one a doe. Then come two bucks, represented without legs, as if swimming in the water, followed by a rude figure of a man in a kaiak. Below the line at the left is an umiak with five men and then a row of twelve conventionalized whales' tails, of which all but the first, second, and fifth are joined to the horizontal line by a short straight line. The record may be freely translated as follows: "I went out with my gun and killed three large

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, pp. 363, 364, fig. 363.
[2] Idem, p. 362, 363.

reindeer, two bucks, and a doe. I also speared two large bucks in the water. My whaling crew have taken ten whales." The number of whales is open to suspicion, as they just fill up the board.

In the above description the author does not state, as he has done in another instance, that the interpretation was obtained from the native owner, and it may therefore be assumed that he ventures the interpretation himself. The statement at first that the animals were deer and later on reindeer is confusing in the attempt to differentiate between the objective portrayal by the natives of the two species of animals. It is evident that the reindeer is intended, because of the unusually long, narrow antlers and their forward direction in their position upon the head. It is unfortunate that no other pictographs from Point Barrow are at hand, in order that satisfactory comparison with other representations of deer and reindeer might be made so as to make note of the specific differences, as we find so elaborately portrayed in the records from Sledge Island, Norton Sound, and elsewhere.

The reference to a female animal is perhaps a random one, because the natives of Alaska, as well as the aborigines of North America generally, are too cautious and matter of fact to portray that which they do not intend. The horns upon the third animal—the doe(?)—are too strikingly like those upon the two preceding specimens to denote anything different from them in sex.

The statement that "the number of whales is open to suspicion" is worth noting, as frequently a large number of anything is denoted by an indefinite number of conventional indications of such objects. Various examples are given in which such large numbers have been engraved with an ornamental or decorative motive, leading one to suspect the true import intended by the recorder. A common example is found in the ordinary "war bonnet" of eagle plumes, worn by several of the so-called Prairie tribes of Indians. The single feather is gained by a warrior when he either kills an enemy or is one of the first four to reach and touch the fallen enemy with the coup stick, a bow, or any other object. The act of being able to reach the enemy in such manner is deemed by the Indian to denote that he is nearer and more in danger than the one who may have fired the fatal shot. After a number of plumes have been thus gained by a warrior, each to indicate an exploit of valor, the number becomes inconvenient for attachment to the scalp lock and the long plumed bonnet is permitted, provided the one so entitled thereto is able to purchase such a decoration, the present value of eagle plumes varying from $1 to $2 each.

In similar manner an indefinite number of items, to denote many, is often portrayed in pictorial records of various rudely remote peoples; and it is probable that the above is only another instance, of which others are noted in the present paper.

HUNTING AND FISHING.

The characters in plate 69, fig. 3, at Nos. 1, 2, and 3, denote whales, while at Nos. 4, 5, 6, and 7 are indicated four American whaling ships. The one at No. 7 is placed in a foreshortened position, something seldom expected to be so reproduced by primitive peoples.

No. 8 appears to be an ice pan, at the base of which two men seem to be in the water with hands uplifted to attract attention; while No. 9 is a seal fisher hastening forward. The harpoon is seen resting upon the rack upon the fore part of the canoe, as is also perceptible in No. 10. The large bodies behind the occupants of the boat are floats used to retard the swimming and escape of harpooned seals.

The manner of hunting sea otter is as follows: In Alaska the Aleuts or other natives are the otter hunters. A large number of bidarkas take provisions for a day or two, and when the weather is calm, put out, often out of sight of land. When arrived on the banks most frequented by these animals, the bidarkas form a long line, the leader in the middle. They paddle softly over the water so as to make no disturbance. If any Aleut sees an otter's nose, which is usually the only part above the surface, he throws his dart and at the same time elevates his paddle perpendicularly in the air. The ends of the line dart forward, so as to encircle the animal in a cordon of bidarkas, and everyone is on the watch for the second appearance of the otter. The same process is repeated until the animal, worn out with diving, lies exhausted on the surface, an easy prize for his captors. The skin belongs to the hunter who first struck it, or to him who struck nearest the head.[1]

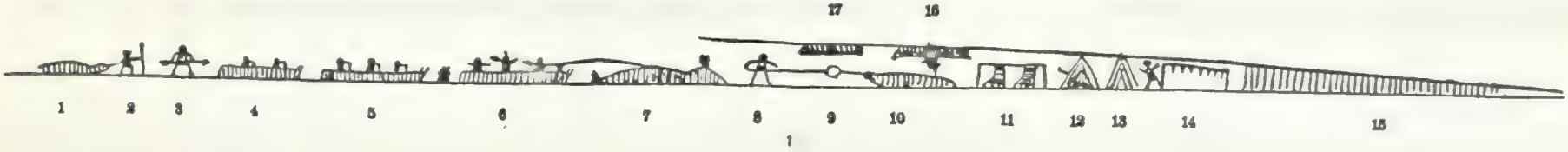
Plate 69, fig. 2. Capture of polar bear [?]. The signification of the illustration is that a bear was observed eating a seal, when the natives of the village at No. 9 went forward in the canoes, Nos. 5 and 6, when one of the bravest made the attack with a spear. The seal is indicated at No. 1.

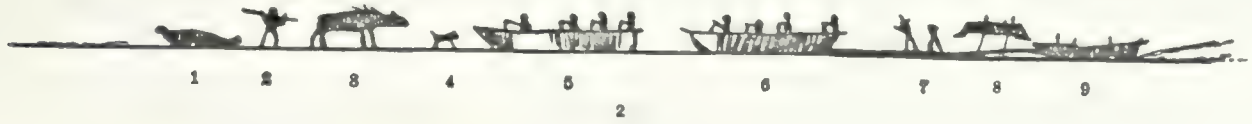
The figure at No. 4 is not explained; while at No. 8 a canoe is still resting upon the scaffold drying.

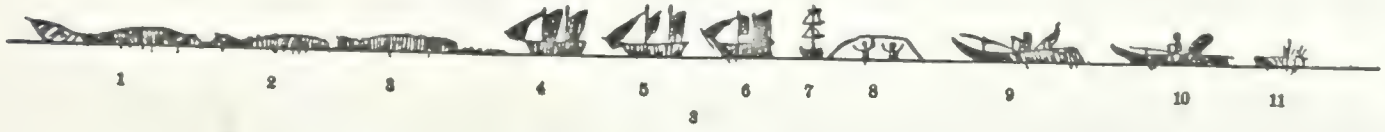
In plate 69, fig. 1, is a record of a whale and seal hunt. No. 1 is a seal which has been captured by the two hunters, Nos. 2 and 3, and is being dragged to shore for return home. The hunter is carrying his seal lance before him like a staff, while No. 3 is carrying his at a charge. Nos. 4, 5, and 6 are baidarkas with the oarsmen within, the foremost individual in No. 6 having harpooned a whale, which is heading away, spouting. The object between the boats, Nos. 5 and 6, is a seal diving out of harm's way. The hunter at No. 8 has caught a seal, No. 10, and on the line is a small disk which denotes the float used. In some pictographs the disk represents the opening in the ice, through which the line is dropped, although this may be in the air and resemble a float.

No. 11 is indefinite, while Nos. 12 and 13 denote the summer or temporary habitations, erected for a short sojourn only, until the meat has been secured which is being placed upon the rack, No. 14, by the person shown at the left end, in that employment.

[1] Dall, Alaska and its Resources, pp. 490, 491.









RECORDS ON IVORY RODS.

The vertical strokes continuing beyond this to the end of the record are simply ornamental, the space being deemed too small for further records.

At Nos. 16 and 17 are two baidarkas to indicate that the seal was captured while on a hunt by boat.

The accompanying illustration, in plate 69, fig. 4, represents a fleet of canoes, the natives having gone on a hunt, although the leading umiak only is shown to be engaged in harpooning a whale, No. 7, which, quite unusually, is portrayed with the tail projecting from the water. The animal in front of it is a seal. The No. 9 character denotes a seal diving out of the way. One of the men in No. 12 boat is making a signal of surprise to the boatmen behind, as he has observed the whale in sight and has thus given the alarm as well.

No. 1 seems to have been intended for a specific character, but may have remained unfinished, merely touching up the right-hand end so as to be ornamental. The two figures in Nos. 2 and 3 indicate wolves, the number captured by the party in the baidarka, No. 4. No. 5 is a whaler observed by the hunters.



Fig. 104.

RIVAL WHALE HUNTERS.

An illustration of rivalry in hunting the whale is given in fig. 104, but the sequel does not appear. The two boats were pursuing the same animal, which is shown spouting, and the harpoon throwers are in the attitude of casting their weapons at the same instant.

The etching is strongly and artistically executed.

Plate 64, fig. 2, represents a very old ivory bow drill from the Diomede Islands. The specimen is actually brown with age and bears incisions upon four sides. The surface shown in the illustration bears at the left a large umiak in which are four hunters, the one in the bow being represented as throwing a harpoon toward an approaching whale. Beyond this figure is a hunter in his kaiak who has thrown his harpoon at a whale, the latter being represented with the head projecting vertically from the water. The short irregular character in the stern of the kaiak represents the inflated seal-skin float. Two other whales in this upright position are shown to the right of the above mentioned, and they are approached from the right by two hunters in a large umiak, the one in the bow being also represented as having cast a harpoon, the line extending from his hands to the animal. At the extreme right is a hunter in his kaiak. Upon the opposite side of the specimen, beginning at the left, is a walrus being dragged forward by four men. To the right of this group are shown four kaiaks each with its hunters, and each hunter having his harpoon elevated horizontally above his head as in the act of throwing. Behind the hunters

are represented the usual figures of the inflated seal skins used in connection with the harpoon line. Three large figures of walruses are next shown, upon the back of the first being portrayed a young one. At the right of the upright walrus is an umiak containing four hunters who are traveling toward the right in pursuit of a whale, towards which the hunter in the bow of the umiak is casting his harpoon. Upon the upper narrow edge of the rod are a number of small figures, at the extreme left six natives being shown, each with one arm elevated, and a small line extending from the hand to the head, very much suggesting the use of the pipe as in the act of smoking. Three seals are next drawn, beyond which are two kaiaks, and beyond these the figures of six seals. The entire series of characters are arranged with such apparent regularity as to suggest more of an attempt at ornamental decoration than the portrayal of any experience in hunting. The narrow face opposite to this bears two horizontal parallel lines within which are a number of narrow cross lines and two circular indentations, neither of which appear to have any special significance further than an attempt at simple ornamentation.

Another illustration of whale and seal hunting is given in plate 70, fig. 1. The four creatures indicated by No. 1 are seals, toward which the native in the canoe is paddling, No. 2. Above him is a small cross denoting a bird in flight. The spouting whale, shown in No. 3, is harpooned by the man in the bow of the baidarka, No. 4, while the man behind him is holding aloft his catch—a large fish—while with his right hand he is also calling attention by the gesture of surprise. The others in the boat are paddling to keep up with the whale.

Nos. 5 and 6 appear to be seals, although the latter resembles more nearly the smaller whales, as drawn in other pictographs, yet this can scarcely be, as the hunter, No. 7, is lying upon the ground and resting his gun upon a ridge or rock, in the attempt to shoot the animals.

The hunter at No. 8 is stealthily coming up to No. 7, carrying a gun or lance.

No. 9 denotes three seals, while No. 10 is a hunter awaiting their approach, he lying behind a small heap of what, by its remaining untouched by the graver, would appear to be ice.

No. 11 is a boat being carried out of the water, a whale, No. 12, having been killed and ready to be cut up. No. 13 is a baidarka containing some returning whales, while No. 14 is a seal, the hunter taking it to his habitation at No. 15, the interior view being disclosed, showing within two of the hunter's family, one seated upon the floor while the other is addressing some words to him, or her, as denoted by the attitude of the hands. Another permanent dwelling is indicated at No. 16, the smoke rising out of the smoke hole, while the owner is at the side entering into conversation with the others because of the return of the lucky hunter.

The accompanying fig. 105 is interesting because two different pur-

suits are represented, one being interrupted in order to prosecute another. The natives had gone out in their baidarkas to fish, as indicated by the middle figure of No. 2 group holding up two fish which had been caught, and the man No. 4 also having a large salmon (?) attached to a pole. A whale was observed spouting, No. 1, when the boatmen started after him, the foremost one darting his harpoon into the animal while the one on the stern began to make signals, calling to his companions that there was game in sight. The signal is the common one of holding aloft, horizontally, an oar so that it may be seen by those toward whom it is held and intended to be seen. The signal was observed, as we perceive in No. 3 the three men pushing into the water the baidarka, lying on its side, the middle man holding the harpoon while the one at the right is pushing at the vessel. No. 4, as already stated, has a fish attached to a pole; No. 5 is making gestures, also calling to others to come, while No. 6 is seen walking toward the shore with a rod, probably intended for an oar.

The three small crosses in a horizontal line above No. 3 denote birds flying in air.

Plate 66, fig. 1, consists of a short ivory handle for carrying a kantag or bucket. It is a very old, yellowish-brown piece of ivory, and was

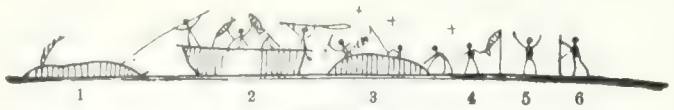


Fig. 105.

WHALE HUNT.

obtained at St. Michaels. The engraving is characteristic of the locality, being deep and boldly cut. Upon the upper surface shown in fig. 1 appears an umiak with four hunters, the one in the bow preparing to throw his harpoon toward a whale. In front of the latter is another umiak, the man in the bow of which is also throwing his harpoon to a whale, while in front of the latter is a projecting fluke, indicating an animal of similar species descending into the water, while to the right is an umiak, the occupant of which is endeavoring to throw his harpoon into the whale just referred to. At the extreme right is another umiak with four men, the one in the bow also harpooning a whale. The head of the latter is drawn very much in imitation of a tuskless walrus, and might be mistaken for that animal, or a seal, but for the spray of water which is represented as being thrown from the blow holes. Turning the handle around, we perceive advancing from the right two umiaks with masts erect, upon which are several indefinite figures. A little farther on, however, is shown a whale to which a line is attached, indicating that he has been harpooned, while the shapeless figure referred to may possibly indicate the inflated skin which is always attached to impede progress in the case of an escaping monster of this kind. The curious

figure a short distance above the whale and directly opposite to the fluke spoken of in the record above, represents an island with its elevated center and precipitous sides. Upon the other side of the top carving the drawings are a little more delicate. Two of the most conspicuous characters on the left side represent seal nets. The two umiaks are proceeding in the direction of a whale which appears to have been harpooned, as at the end of a long thin line there appears attached the usual float. The figure at the extreme end is that of a seal, while the one to the left of it may be another animal of the same species. Between the latter and the whale is a very small and very delicately drawn kaiak. The man represented has a paddle, while a spear projects backward and upward behind him.

On the under surface of the bow, between two parallel lines but a quarter of an inch apart, are about twelve characters denoting various animals which the hunter wishes to intimate he has killed. Some of them can be identified, while others can not, the drawing being rather crude.

The specimen shown in plate 59, fig. 2, is from Cape Prince of Wales, and represents a variety of hunting records. Beginning at the left hand along the lower edge is visible a very crudely carved figure of a native with a spear, following two bears. To the right is a native kneeling, preparing to shoot. The next four figures represent umiaks loaded with native hunters going to sea. These are followed by the figure of a whale which is being harpooned by the hunter in the bow of an umiak immediately to the right. The next figure is that of a dog, and the next a native who has hold of a thong by which he is leading another dog. Then we observe a hunter dragging a seal, while a short distance above this are small crosses representing birds. The next is a walrus, to the right of which is a dog dragging a sledge upon which is seated the owner. Turning the bow around, we perceive at the left four >-shaped figures, indicating the end of both records. The first figure projecting from the base line is a whale's fluke, then several small figures to represent walruses, then two men are observed grasping hands, with apparently a spear between them. A large umiak is shown in front of another walrus, two of the hunters in which have raised their spears to cast toward some walruses lying upon a floating cake of ice. To the right of these animals is represented a seal being dragged by three hunters. These are preceded by another group of three, who are also dragging home a seal. A single native is next shown, with a line directed to a spot near the base line, which denotes a seal's head. The large fin-like character represents a fluke, as in the first figure of this record. An umiak is then shown, one of the natives in which is in the act of harpooning a whale, while a native in one of the other umiaks has also a line attached to him. The record is concluded by another umiak containing four men pursuing a walrus. Upon the under side are a number of illustrations of hunters, some

harpooning walruses, while others appear to be after some reindeer who have taken to the water. Along the narrow edges are also representations of various objects, one side being filled more than half of its length by a procession of dog sledges, the remainder being filled with sealers upon ice floes, a whale, and some boatmen. The other edge represents some very deeply incised and graphic outlines of boats and marine hunters, the record terminating at one end with some flying birds, while at the other two individuals dragging a seal are shown.

Plate 22, fig. 5, is a drill bow from Kotzebue Sound. The specimen measures 16½ inches in length. A sectional view of the specimen is lozenge shaped, so that there are both above and below two faces upon which records are engraved, making a total of four records. As represented in the illustration, the record upon the lower side consists of seal and whale hunting scenes. At the extreme left is a rude outline of an umiak, within which are crude representations of human beings. The vessel is very close upon an immense whale, which is evidently escaping from them in the direction of another umiak which appears to be approaching it. The oblong figure to the right of the last named umiak is an inverted boat placed upon scaffolding for the purpose of drying. Some partly eroded figures are seen between the bow of the boat and three men, one above the other, who are portrayed in the act of dragging home an immense seal. Beyond this are three umiaks filled with hunters, while still farther to the right are two or three walruses swimming in the water. To the right of the last named is a figure very much resembling the conventional outline of a wolf, while beyond that, to the right, is a low elongated structure, heavily etched, which represents a winter habitation. Above the entrance is a human figure, with arms extended, as if attracting attention to something. Beyond this structure, to the right, is a very delicately engraved scaffold, upon which food or other similar materials are placed for safety.

Along the upper surface of this bow, beginning where the previous story ended, we find a storehouse erected on stilts attached to the ordinary winter habitation, upon and about which are the outlines of some human beings. A food rack is erected above the entrance to this habitation, from the horizontal bar of which are suspended objects which are probably pieces of meat or fish, as the occupants appear to be seal hunters, two of them being represented in the act of dragging home seals. Just to the right of this is a grazing deer whose legs are unnaturally long, and in front of this is an umiak holding four hunters. The two small figures to the right of the last named are seal heads protruding from the water. Beyond this is another umiak with four hunters whose arms are in various attitudes as if in earnest conversation. The small mound-like figure at the bow of this boat represents the shore, and immediately to the right are shown three natives dragging home upon its back a huge seal. Beyond this animal are other hunters similarly engaged. The oblong outline somewhat resembling

a canoe lying on its side can not be determined. To the right of this, however, is another figure of a seal being dragged toward the right, and approaching two men whose arms are uplifted as if in joy at receiving assistance. The partly obliterated figure of a human being is seen approaching the entrance to one of the ordinary winter habitations, from the door of which, as well as from the middle portion,



Fig. 106.

WHALE HUNTERS.

appear two vertical sticks with small figures at the top, both representing votive offerings. The scaffold at the right represents a storehouse used for food or grain.

In fig. 106 is presented another illustration of the indication, pictorially, of what the hunter desired, or saw, and how much thereof he secured. The three men in the baidarka are headed toward two whales, the foremost one of the former, he in the bow, being represented in the act of casting a harpoon, the dotted line indicating the course. The whale struck by the weapon is headed toward the hunters, indicating that he was captured; whereas the second whale is going in the contrary direction, denoting that he had been observed and very much wanted, perhaps, but not captured. The short projections above the heads of the whales denote fins—and seem thus to specify the finback. The cruciform figures denote flying birds.

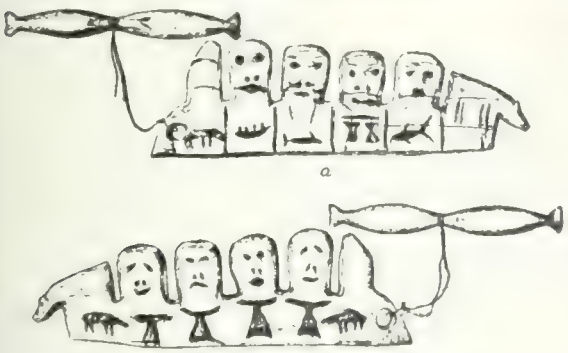


Fig. 107.

IVORY CARVING BEARING PICTOGRAPHS, POINT BARROW.

A peculiarly interesting specimen of art is illustrated in fig. 107, and consists of a flat piece of ivory, 4 inches long and 1.2 inches wide, roughly carved and covered with incised figures. The specimen is made of a fragment of an old snow-shovel edge, is perforated at one end, and has attached to it by a strand of sinew a little handle formed of ivory, and represents two bowhead whales with the heads attached, so that a slight stricture results, about which the cord is tied.

The spiracles on the effigies are incised and blackened.

"The upper edge is carved into five distinct heads—first, a rude bear's head, with the eyes and nostrils incised and blackened as usual; then four human heads, with a face on each side. The front faces have the noses and brows in low relief, and the eyes, nostrils, and mouths

incised and blackened; the back ones are flat, with the last three features indicated as before. At the end is a rude figure of a bear, heading toward the right, with the ears in relief, the eyes and mouth roughly incised and blackened, and the legs indicated by roughly incised and blackened lines on the obverse face. Both faces are covered with rudely incised and blackened lines.

"On the obverse there is a single vertical line between each pair of heads. Below the bear's head is a bear heading toward the right; under the first human head, an umiak with four men; under the second, a 'killer' (Orca) heading toward the right; under the third, two of the usual conventionalized whales' tails suspended from a cross line; and under the last, a 'killer' with very large 'flukes' heading toward the left.

"On the reverse there are, below the bear, a bear heading toward the right, below each of the human heads a whale's tail with the flukes up, and under the bear's head a bear heading toward the right."[1] This end is perforated as before stated.

Fig. 108 represents a village near a stream, or the seashore. Nos. 1 and 3 are habitations, while the structure at No. 2 represents a store-



Fig. 108.

FISHING NEAR THE VILLAGE.

house, a box-like receptacle built upon poles within which to store food. Upon the entrance way of No. 3 is seen a man occupied in some ordinary occupation, but at his left is a vertical pole upon which is a short transverse line, the effigy of a bird or fish, most probably the former. This is a votive offering, or "shaman stick," erected to the memory of a departed member of the family. Bird carvings are deemed the best that can be selected, flying spirits or demons, typified by birds, being considered good omens, whereas walking or crawling ones are often malevolent.

To the right of the man, over the entrance to the habitation, is another "shaman stick," erected probably with the same motive as the preceding one, though to indicate a second person, only one stick being erected to one individual at the same place.

The four figures seated upon the ground at the water's edge—Nos. 4–7—denote four persons fishing, the floats being visible on the lines of Nos. 6 and 7.

Fig. 109 represents a party of fishermen, the three figures at the right being in a seated posture. Considerable surface erosion by constant use has weakened the lines at the left side to such an extent as

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, pp. 397, 398, fig. 398.

to make interpretation more difficult. The long upright lines may have been intended to denote rods, as a similar line in the hands of No. 6 is known to be.

No. 3 may have had a rod and line attached to his hands, as in Nos. 6 and 7, but the surface here is perfectly smooth and polished, thus obliterating all evidence of such implements.

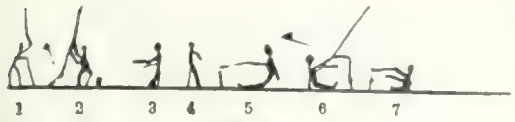


Fig. 109.

FISHING WITH HOOK AND LINE

As many of the ivory drill bows and bag handles have inscribed upon them records of seal hunts in which are found engravings of natives dragging seal, it seems proper, if not necessary, to illustrate the utensil with which the dragging is performed. Fig. 110 represents a seal drag, an article with which every seal hunter is provided and carries with him for dragging home his game. This consists of a small ivory handle or knob, to which is secured a stout thong doubled at the other end in a bight about 18 inches long. The bight is looped into an incision in the animal's lower jaw, while the knob serves for attaching a longer line or the end of a dog's harness. The seal is dragged on his back, and runs as smoothly as a sled. The illustration of the drag referred to above is one of a small collection in the National Museum, and marked as from Point Barrow.[1]

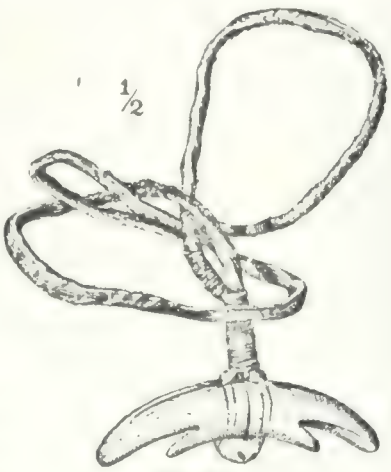


Fig. 110

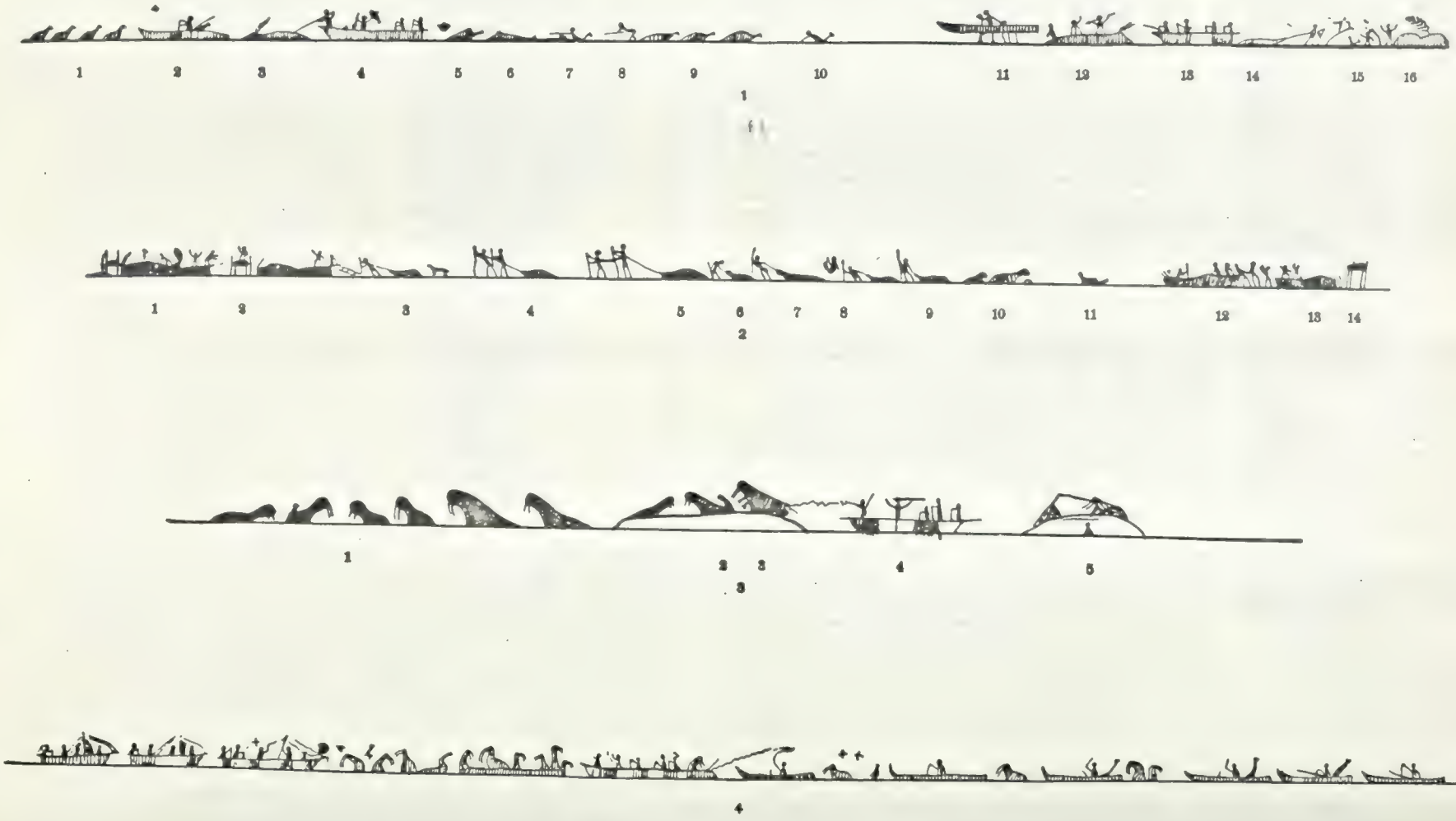
SEAL DRAG

Some of these ivory knobs show slight markings or incisions to serve as ornamentation, as shown in plate 26, fig. 3, though the greater number are carved in symmetrical forms, and usually in imitation of seals, whales, or something of this kind.

Floats of inflated seal skin are used in capturing whale and walrus. An excellent specimen from Point Barrow,[2] fig. 111, will serve to illustrate the general appearance of the float, and will furthermore serve to make intelligible the peculiar fish-like object portrayed on some ivory records, where the seal fisher is represented as in his kaiak, with the harpoon and float projecting backward from the body. The accompanying illustration is here reproduced from the Point Barrow report by Mr. Murdoch.

The village in plate 70, fig. 2, is located at Nos. 1 and 2, the store-

[1] Ninth Annual Report of the Bureau of Ethnology, 1887–88, 1892, p. 256, fig. 257 a.
[2] Idem, p. 246.



WHALE AND SEAL HUNTING RECORDS.

house being at the extreme left end of the first house. Smoke is rising from the middle elevation, while upon the entrance are two persons, one of whom is shown with his arms elevated, as if hailing some one, while the second appears to be in conversation with the man on the scaffold belonging to the next house, at No. 2. On the latter are two people pulling up a ladder to get the hunter to bring up the meat, when the seal, dragged by No. 3, is eaten up. The hunter's dog is following. No. 4 denotes two men pulling at a seal, while those at No. 5 are similarly engaged. Nos. 6, 7, 8, and 9 are also taking home their captures. The figure in the air, between Nos. 7 and 8, resembles the usual outline of an evil spirit, as portrayed in connection with ceremonial performances of shamans, but in the present connection the import of the character is unintelligible, unless the artist intended to represent one of the natives in the act of jumping.

No. 10 denotes two seals, No. 11 a water bird, while No. 12 indicates a canoe with the rowers standing about in conversation, in which the inhabitants of No. 13 are participating.

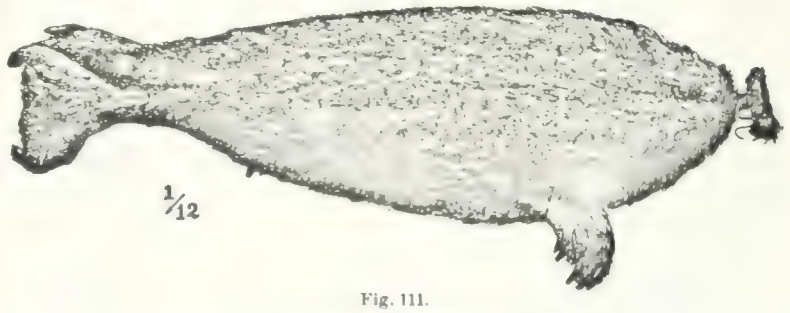


Fig. 111.

INFLATED SEAL SKIN FLOAT

No. 14 is the storehouse or scaffold belonging to the occupants of No. 13.

Plate 22, fig. 5, represents another drill bow or bag handle from Kotzebue Sound. The square object on poles, at the right end upper line, represents a cache or granary, while the dome-shaped structure is a winter habitation, on the entrance to which is a native with his arm directed downward, as if indicating that place for some particular reason. The next character represents a scaffold used for drying meat or fish. Two men are represented as approaching the rack, both dragging an oddly formed character, probably intended to represent a seal. The mammal is a reindeer, while to the right is an umiak containing four men approaching two figures, the forms of which are not sufficiently distinct to identify.

Beyond these, however, are two seals whose heads are seen protruding from the surface of the water. Another umiak is shown, beyond which three men are shown dragging a seal or walrus. These are followed by three others similarly occupied. The dome-shaped figure

to the right denotes, without doubt, a similar animal upon an ice floe, the latter being indicated by its having been left white to denote transparency.

One man is seen dragging at a seal to the right of the floe, and a little farther on are two men making gestures, the first having both hands and arms directed upward, while the second has one arm directed to the left of the rod, while with the other the hand is flexed toward his head, as if beckoning to some one at his left and indicating the direction to his right.

The walrus have been surprised by hunters, as shown in plate 70, fig. 3, many of them swimming away, as shown in No. 3, one animal having its young still resting upon its back. The ice pan at No. 2 has three animals remaining upon it, a young walrus at its mother's back being indicated in the middle figure, while the largest figure is already harpooned, its flippers (?) being extended in its endeavor to slip into the sea and escape. The middle boatman in No. 4 is holding aloft his paddle, thus calling for assistance, the signal being visible, perhaps, by other hunters, who will at once respond. In No. 5 the hunter had harpooned his walrus, which immediately attempted to escape by resorting



Fig. 112.

A WALRUS HUNT.

to an ice pan, upsetting the canoe and dragging it upon the ice, and at the same time throwing into the water the unfortunate hunter, whose head and shoulders are seen projecting above the base line, here indicating, also, the water line.

In fig. 112 is shown a remarkably graphic illustration. The artist was of more than ordinary cleverness, and the engraving scarcely requires any description. The animals noted in No. 1, the middle one on the ice pan in No. 5, and the one to the right—the last but one—are each shown with their young upon the back.

The ice pan upon which the animals had been floating is indicated by an outline only, the body being left white and in imitation of nature.

Plate 21, fig. 2, represents the back of bow shown elsewhere. As before, there is an upper and lower face upon which hunting records are portrayed. Beginning with the upper surface at the right-hand side, we perceive four walruses, to the right of which is an umiak occupied by four hunters. The one in the bow appears to have a short-handled ax, while the second has one arm uplifted, and directed forward from the mouth appears a short line terminating in zigzag, which is believed not to be accidental but intentional, and indicates voice or speech, sound being portrayed in other pictographs as well, seemingly

indicating this extent of acquaintance with the recording of subjective ideas. The third person in the boat is using the paddle, while the one at the stern has a weapon of some kind with which he is attempting to keep off an aggressive walrus which is following them.

To the right of this is another umiak paddling toward the right in the direction of the three walruses represented. Above the middle of this is a small cross which denotes a bird. The next figure represents an umiak in which are four people close to the body of a whale which has been harpooned. The elongated curved figure resting upon two short vertical lines represents a boat on shore and on a scaffold drying. At a distance of about 1½ inches from this is shown a whale in the act of diving, as is intimated by the fact of the greater portion of the body being directed upward while the head is down in the water, as shown by the spray which emanates from the blow hole in contact with the surface. The oblong cross above this represents a bird. The adjoining characters to the right can not be definitely determined. The figures at the end, however, represent two winter habitations with the accompanying granaries and the presence of human figures.

Turning the bow around and following the remaining faces from the left hand, we find first a winter habitation with smoke rising from the center, in front of which is a tent with a vertical pole projecting upward at the right. A native is seen dragging home a seal, while to the right are more human figures apparently embarking in umiaks, three of these vessels being under way. Beyond the bow of the right-hand boat and upon the base line are two figures which represent seals, while of the two in the air the one at the left represents a fox or wolf and that at the right a bird. The remaining half of the space upon this bow is filled with a procession of natives dragging home seals, eight of these animals being shown. The vertical sticks used by these natives are seal spears, which they employ to aid locomotion.

Plate 24, fig. 3, represents a drill bow from Nubuiakhchugaluk, collected by Mr. E. W. Nelson.

The specimen measures 12 $\frac{3}{16}$ inches in length, and is rudely decorated both above and beneath. The figure at the extreme left is partly obliterated. The next represents a native in his kaiak in the act of throwing a harpoon toward a walrus, which he is closely pursuing, and beyond which are four other animals of the same species. The next figure represents an umiak with three occupants, the one nearest the bow being represented as in the act of throwing a harpoon. Two large crude figures of walruses are between this boat and another umiak, in which are three persons, the one at the stern being shown with the rudder, the one in the middle having both arms extended and upward as if in surprise, and the one at the bow being in the act of throwing a harpoon toward a whale. Above this are five birds, indicated by crude crosses. To the right of the whale is a native with bow and arrow, preparing to shoot toward a reindeer. The triangular figure to the

right of the reindeer appears to be a summer habitation, while the figure of a mammal at the extreme right is not drawn with sufficient accuracy to admit of identification. The under side of the bow contains characters the import of which is very much the same as that of those just enumerated. The edges of the bow are decorated with horizontal incised lines.

The record given in plate 60, fig. 2, embraces several different exploits. In No. 1 the helmsman at the end of the large canoe is holding aloft the double-bladed paddle to attract attention and to call for assistance, as a walrus, No. 2, is making an attack upon the native in the kaiak, No. 3. The leaning figure in the stem end of the kaiak is the inflated seal skin used as a float in hunting whale and walrus. No. 4 is rock and indicates shore, near which is No. 5, a large animal. The canoe party at No. 6 are also making signals, seals having been discovered; No. 9, toward which the native in the kaiak, No. 8, is going, having already thrown his harpoon as indicated by the weapon before the bow, and securing one seal as noted by the harpoon protruding from its back.

Both boats are near a large rock showing a water-worn cavity, as in No. 7.

Another native, armed with harpoon and float, is paddling along at No. 10. The figures at No. 11 and 12 are either partly worn away or incomplete and are unintelligible.

The regularity with which the hunters and their captured seals are depicted in plate 60, fig. 3, is a step in the direction of the decorative—representation of a hunting exploit.

Each of the hunters has secured an animal, the hunter dragging No. 2 seal having a bow and arrow while the others have harpoons, the weapon being cleverly indicated by the barbed head in the hands of the native dragging seal No. 10.

Fourteen seals were secured, only one getting away from the slaughter, as indicated in No. 15.

The illustration in plate 60, fig. 4, is interesting because of an attempt at perspective. The record was too comprehensive to be engraved upon the ivory surface available, and as there were more canoes employed in the hunt than could be drawn along one line, in consecutive order, three of them are raised to appear as if they were in the air, though in reality beyond the two touching the water line in the foreground. The canoes at No. 2 are for one person only, while that at No. 3 has nine people in it. The walrus, which the party is evidently going to attack, are at No. 1. Nos. 4 to 11 embraces the habitations referring to the fact that a village is located there, while the scaffolds—with the exception of No. 6—are for canoes, the vessels being inverted and the paddles projecting beneath. The exception referred to is a food scaffold, to which a flight of steps has been placed. Two persons are observed on the roof of the house at No. 5, watching the departure of their friends, while a short





DECORATED IVORY PIPESTEM AND BOWL.

column of smoke is seen arising from the middle elevation of the habitation.

At No. 4, food is seen suspended beneath the inverted boat, while above it the harpoon is projecting, showing that the weapon is kept near at hand for immediate use, should occasion demand it.

The engraving in plate 70, fig. 4, presents interesting details in the portrayal of various attitudes assumed by walrus Nos. 4, 7, 9 and 11, as well as the specific difference between the canoes, the baidarka holding more than one person, and the kaiak, generally, but for one person. The former is shown in various styles, as Nos. 1, 2, and 3, while the latter is represented in Nos. 6, 8, 10, 12, 13, and 14. The small cross above No. 3 denotes a bird in flight, as also the two figures of like form above the seal at No. 7. A large water fowl still remains upon the water before the bow of the kaiak at No. 8.



Fig. 113.
ALASKAN NOTICE OF DIRECTION.

The hunter in the kaiak No. 6 has thrown his harpoon into a walrus, while the occupants of Nos. 10 and 12 have raised their weapons preparatory to throwing them. The elongated objects projecting from the kaiaks, behind the occupants, Nos. 10, 12, and 13, are inflated seal skins used as floaters for the harpoon line, to impede the speed of the harpooned animal, and also to prevent its escape by remaining too long underwater or to trace its course while there.



Fig. 114.
ALASKAN NOTICE OF DIRECTION.

TRAVEL AND GEOGRAPHIC FEATURES.

Locomotion by boat is graphically represented in many records and by sledge in occasional instances. Walking with the seal spear used as a cane is common, and in one example age is also indicated by the attitude of the bent body, a method of portraying physical condition seldom found in Eskimo pictographs, but of frequent occurrence in the records of the Ojibwa and Dakota.

Fig. 113 is reproduced from a small slab of wood, and is explained as follows:

Seal hunters thus inform their comrades that they have returned home: The first to return to the regular landing place sometimes sticks a piece of wood into the ground leaning toward the village, upon which is drawn or scratched the outline of a baidarka or canoe heading toward one or more outlines or lodges, signifying that the occupants have gone toward their houses.

In this connection may be mentioned a common device used by the natives of southern Alaska and Kadiak to indicate direction taken or to be taken. When hunters become separated the one first returning to the forks of the trail puts a piece of wood in the ground, on the top of which he makes an incision, into which a short piece of wood is secured horizontally so as to point in the direction taken.

This device is sometimes drawn upon ivory and other materials, in connection with other objects to make pictographic records, and then simply represents a character like the letter T, the upper crosspiece being very short in comparison with the vertical stroke.

The practice of erecting such sticks to indicate direction is very common to the tribes living along the Great Lakes, especially the Crees and the Ojibwa.

Plate 25, fig. 2, represents a snuffbox of walrus ivory. This specimen, which was obtained at Norton Sound, is crude and very old. Upon the upper border or margin is a line encircling the specimen, upon which is a series of very interesting although crude figures. The only engraved character below the line, upon one side, is a very rude sledge attached to a long-necked dog.

The pipe represented in plate 71 measures 10½ inches in length along the lower outer curve, while the ornamental head in front is 1 inch in length. The latter is easily removed, being merely an ornamental head of the peg used to plug the drilled tube of the pipestem. The stem is three-fourths of an inch in lateral diameter and about 1½ inches through the stem at the back of the bowl—from top to bottom. The bowl and its supporting stem is 1½ inches in height. Upon either side of the rim of the bowl is a carved human face with blackened eyes and mouth, the nose being quite pronounced.

The engravings occupy the four sides of the stem, the two lower panels being reserved for boating scenes, while the upper are retained for game and village scenes. Upon the upper right-hand side are six reindeer, followed by a wolf, while before the foremost reindeer is the figure of a man in the attitude of following sea fowl, evidently in the attempt to secure some.

Beneath this scene is a fleet of eight umiaks, under rail, while in each vessel are the outlines of human figures, one at the bow of the leading umiak reaching toward, or grasping, the foresail stay, while every helmsman has his oar to steer his boat. In the fifth boat—forward from the mouthpiece of the pipe—is one native smoking his pipe.

On the left-hand side, in the lower space, are six kaiaks, each having its occupant using the paddle, while toward the stem is seen projecting the harpoon and seal-skin float, ready and inflated for use.

The upper space portrays a village scene, in the middle being the dome-shaped winter habitation, from which smoke is issuing; three persons upon the roof of the entrance are watching the return of the hunters, one raising his arms as if hailing the latter with pleasure at

their safe or successful return. The hunters are at the left dragging along their kaiaks upon sledges. The figure placed upon stilts is an umiak, suspended for drying and protection, while beneath it is a dog and his master approaching the entrance of the habitation.

At the right is a storehouse or granary, built above the ground, and near it a man calling or urging forward the dog hitched to the sledge, upon which is placed a load and one person.

The artistic execution of the engravings is good. The lines are very uniform in depth and width, showing the artist to have been an expert in the use of the graver as pertains to the mechanical part of the etching, at least.

The lines are all filled in or stained with a very black substance, giving the work rather a harsh and new appearance and not so soft and warm in tone as some of the older and more worn specimens.

The engraving in plate 40, fig. 1, is very bold and seems to present strong evidence of perspective drawing, not through mere accident but from intention. The gradual diminution in the size of the buildings and store racks at the left end of the record is very cleverly done. The figure at No. 9 is a baidarka inverted upon the rack so as to permit it to dry, while the rod upon the entrance to the house at No. 8 is a votive offering, erected to the memory of one of the household. The man upon the roof is speaking and gesticulating to those at No. 6.

The parties in the canoes, Nos. 10, 11, 12, and 13, are leaving to visit another village, indicated by a large habitation and storehouse, Nos. 14 and 15, about which the four human figures are portrayed as making gestures, both beckoning—by the hand raised—and pointing to the house, as if desiring the visitors to come there.

There is no evidence of want of food, or death, as indicated in some other records presented herein, but simply an exhibition of gladness at the return of friends or visitors who appear to have come within hailing distance.

The excitement caused by the arrival of two whaling ships is cleverly portrayed in plate 40, fig. 2. At No. 1 is a baidarka still upon the drying poles, while the natives at No. 2 are excitedly rushing toward it to put to water and to follow the other boats already under way to visit the ships. The boats Nos. 3 to 7 are all going along toward the anchored craft, Nos. 8 and 9, the anchor chains being designated by zigzag lines, thus more emphatically indicating *links*.

The canoes at Nos. 10 and 12 are coming from another direction, and the native on the bow of No. 10 is hailing the helmsman on the ship No. 9. The natives in both boats at the right have oars for rudders. No. 11 is a flock of birds.

The record reproduced in fig. 115 illustrates another method of giving information with regard to distress in another village, which occasioned the departure of the person by whom the notification was given. The designs were traced upon a narrow strip of wood, which was then

stuck upon the roof of the house belonging to the draftsman, and made to lean in the direction of the course to be taken.

This is shown in No. 1, the narrow projection upon the apex of the roof denoting the stick; No. 2 is the baidarka, containing the residents of the house; No. 3 is a grave stick, indicating a death in the settlement to which the trip is made, the stick being a votive offering, erected to the memory of the deceased; Nos. 4 and 5 denote the houses of the village, the triangular one being made by leaning together boards or slabs, and is termed a summer house, while the dome-shaped one, made more compactly and covered with turf, denotes a permanent or winter residence. Both kinds are represented, and by this method of synec-



Fig. 115.

ALASKAN NOTICE OF DISTRESS.

doche the village is indicated by portraying only one of each kind composing the settlement.

The design shown in fig. 116 is in imitation of drawings made by the natives of southern Alaska to convey to the observer the information that the draftsman had gone away to another settlement, the inhabitants of which were in distress. The drawings were made on a strip of wood which was placed at the door of the house, where it might be seen by visitors or inquirers.

Vladimir Naomoff, the native to whom reference has before been made, and who drew for the present writer the specimen under consideration, gave the following explanation: No. 1 is a native making the gesture

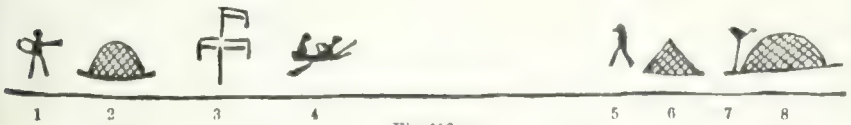


Fig. 116.

NOTICE OF DEPARTURE TO RELIEVE DISTRESS.

indicating *self* with the right hand, and with the left indicating the direction of going. No. 2 is the native's habitation, a winter or permanent residence, dome-shaped, partly underground, with the roof thinly covered with turf to keep out the extreme cold. No. 3 is a scaffold used for drying fish; upon the top of the pole is placed a piece of wood tied so that the longest end points in the direction to be taken by the relief party. No. 4 is the baidarka containing the party. No. 5, a native of the settlement to be visited. No. 6, a summer habitation. No. 7 is a shaman or grave stick, a votive offering erected to the memory of a recently deceased person, the cause which necessitated the journey. No. 8 is a winter habitation, in which the deceased had resided. The

winter residence, No. 8, together with the summer lodge in No. 6, denotes *the settlement*.

The record on plate 40, fig. 3, embracing Nos. 1 to 10, is similar in style to one explained by Naomoff, and pertains to the designation of geographic or rather topographic features of an area of country between that occupied by the recorder and another place to which reference is made.



Fig. 117.

WALRUS HUNTER ATTACKED.

No. 1 denotes three birds flying in the air, and No. 2 has reference to four seals, both groups of creatures being at a shore line, as the tree at No. 3 resembling a pine indicates. The group of trees immediately to the right denotes a grove or woods, indicated by a group of trees being placed close together. No. 4 is a human being and the intention of the recorder is to imply that natives are resident there—beyond the woods. Another grove or forest occurs beyond the settlement, as indicated by the group of trees at No. 5, beyond which another hamlet is situated.

Then comes another forest at No. 7, beyond which is a locality abounding in seals, No. 8. Beyond this is a range of timbered hills, the upland being indicated by a semicircle covered with short vertical lines to denote the timber.

No. 10 is an ornamental mark similar to No. 18 in import, and serves to denote the end of that particular record.



Fig. 118.

QUARREL OVER GAME.

A hunting scene begins with No. 11; the whale is moving toward the right, spouting, causing the walrus, No. 12, to move out of the way. Water fowl are seen at No. 13; while the elevations at No. 14, over which some birds are flying and at the left base of which is another walrus, appear to be rocks protruding from the sea.

At No. 15 are two other walrus, while at Nos. 16 and 17 are two approaching whaling ships.

The character at No. 18 concludes the history.

COMBAT.

But few illustrations occur in the ivory records in the National Museum collections in which personal combat is portrayed. Wrestling is shown, in one instance, under the caption of Pastimes and Games, while another denoting a struggle and combat with a walrus, both being in the water, is given below.

Fig. 117 represents an Alaskan in the water killing a walrus. The exploit was deemed of sufficient importance to perpetuate it by recording the illustration upon a slab of ivory, now in the museum of the Alaska Commercial Company, San Francisco, California.

Two men having a serious altercation over a seal are shown in fig. 118. One is unarmed, while the other has a bow and arrow which he

has threatened to use. The unarmed man's hands are in attitudes of gesture.

The two struggling men, plate 40, fig. 4, No. 1, appear in the attitude of wrestling, but the rapid approach of two others, No. 2, with spears in the attitude of charging or thrusting, seems to lend more seriousness to the record. The position of the legs of the combatants indicates the portrayal of considerable strength being exerted.

Nos. 3 and 8 are houses, the latter showing the column of smoke considerably curved downward to the right, denoting a strong breeze from the opposite direction. No. 4 is a water bird, probably a duck, while No. 5 denotes a seal. An animal of this species has been captured by the hunter, No. 6, who is dragging it home to the house, No. 8, while his wife—perhaps some other inmate—stands at the entrance and with both hands makes the gesture of *request or invitation* to enter, the hands being thrown toward the threshold. Nos. 9, 10, and 11 are dog sledges being brought back by traders from some other locality. The sleds are loaded. The attitudes assumed by the men in aiding the dogs in pulling are very cleverly depicted. Considerable effort is expressed in the leader of the sledge at No. 10, while pushing is done by other persons at the rear at Nos. 9 and 10. No. 11 is lightly loaded, as the



Fig. 119.

ATTACK ON VILLAGE.

owner is seated upon the sledge, while his companion is walking leisurely along behind.

The illustration in fig. 119 represents a village, upon which an attack is made by some natives from another locality.

The figure of a rack—a pole suspended horizontally upon two vertical forked posts—is shown in No. 1. Fish for drying are seen attached, the regularity of the short vertical strokes being evidence of the character of the food. Nos. 2 to 6, 7, and 9 are conical huts made of boards and saplings, such habitations as are erected by hunting parties when they find game sufficient in any special place to prompt their going to so much labor for their protection against rain or cold. In Nos. 8, 10, 11, 12, and 13 alarm is expressed by the signal for assistance, the arms being held aloft and waved to attract attention and to indicate that the presence of the beholder is desired.

No. 14 is a tree, from behind which the enemy shot an arrow which caused the alarm. The enemy had come up unperceived.

IDEOGRAPHY.

This subject embraces one of the most interesting in the entire realm of pictography. Among the Eskimo there is less evidence of ability in this direction than among some of our Indian tribes. Gesture signs

are common to all mankind, but in the greater part of the United States the sign language is rapidly falling into disuse, both because of the destruction of the buffalo, the pursuit of which was participated in by many tribes of diverse languages, a condition which brought about a most highly developed gesture language, and also because of the rapid settlement of the country and the consequent restrictions of Indians traveling from place to place, which also served to keep alive gesture speech. The adoption of the Spanish language by the Indians on the southwest border, and the Chinook jargon in the north, also helped to resume the need of a resort to gesture, the present methods of oral speech, mutually intelligible, being vastly superior and more satisfactory.



Fig. 120.

HUMAN FIGURES MAKING GESTURES.

The use of gesture speech by the Eskimo is well known, and repeated instances showing the attempted reproduction, graphically, of gesture signs occur in the ivory records, some examples of which are reproduced.

To facilitate further study in this line of investigation, the writer submits a collection of gesture signs used by the Eskimo and other tribes of southern Alaska, a collection made some years since, though hitherto unpublished.

PICTOGRAPHS OF GESTURE SIGNS.

No. 1 of fig. 120 represents a shaman waving his hands and arms, as if he were stirring up the air above his head, the motive being the invocation of benign spirits to aid him in his work. The rested figure shown in No. 2, denotes the man making application for aid, and his arms are extended upward in like manner, but in this instance denoting *supplication*, the difference between the two being that the latter is rested upon the ground to indicate his *asking for aid*, whereas the shaman is portrayed not only erect, but in the attitude of dancing, with his song and incantations.



Fig. 121.

SIGNAL OF DISCOVERY

The illustration given in fig. 121 is taken from an ivory drill bow in the National Museum, marked as from Norton Sound, Alaska. The figure represents the gesture sign, or signal of discovery. In this instance the game consists of whales, and the signal is made by holding the boat paddle aloft and horizontally.

Fig. 122 represents a number of natives fishing through the ice for seal. The individual represented at No. 1 is dragging an animal out of the water, a hole having been cut for breathing place at which these animals make their appearance. No. 2 has a seal upon the ice and appears to have great difficulty in pulling it along. No. 3 is preparing to spear an animal, his watchful attitude being apparent. No. 4 is holding aloft his harpoon or lance, making a signal that he has discovered game, or hears it, and thereby warns others near by to be silent.

No. 5 is about to thrust his lance through the hole into the water beneath. No. 6 has stuck his harpoon into the ice and is erecting a shade over the hole so as to permit him to see beneath, while No. 7 has thrust his weapon downward through the ice.

Mr. Dall[1] mentions a practice adopted by the Aleuts when hunting otter, by which the fact of having thrown the spear is intimated to his companions, when they will at once paddle and form a circle around

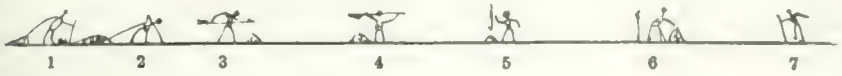


Fig. 122.

SEAL FISHING AND SIGNAL.

the spot so as to attack with spear the animal when it returns to the surface to breathe. The signal is graphically portrayed in the following illustration, in which several hunters had such exploits, and also in many others, in some of which, however, the signal may also denote the idea *to come*, a call for assistance when the animal is thought to be liable to escape or to be unmanageable.

The fishermen found a small school of whales, as shown in fig. 123,



Fig. 123.

SIGNALING FOR ASSISTANCE; WHALES.

and three of them have been harpooned while a fourth is escaping. Help to secure the monsters is required, and all of the occupants of the boats are making the signal for assistance by holding horizontally above the head the boat paddle. This signifies *come*, and also, under other circumstances, game found.

Fig. 124 represents a record of a hunt, made for the present writer by Vladimir Naomoff, in 1882. The drawing is in imitation of similar



Fig. 124.

ALASKAN NOTICE OF HUNT.

ones made by the natives of the southern coast of Alaska, to inform their visitors or friends of their departure for a purpose designated. They are depicted upon pieces of wood, which are placed in conspicuous places near the doors of the habitations.

The following is the explanation of the characters: No. 1, the speaker, with the right hand indicating himself and with the left pointing in the direction taken; No. 2, holding a boat paddle, *going by boat;* No. 3, the speaker holding the right hand to the side of the head, to denote *sleep*,

[1] Alaska and its Resources, pp. 490, 491.

and the left elevated with one finger erect to signify *one* night; No. 4, a circle with two marks in the middle, signifying an island with huts upon it; No. 5 same as No. 1; No. 6, a circle to denote another *island* where they touched; No. 7, similar to No. 3, with an additional finger elevated, to signify *two nights* or *sleeps;* No. 8, the speaker with his harpoon, the weapon with which he sometimes hunted, and with the left making the gesture sign to denote *sea lion.* The hand is held edgewise, with the thumb elevated, then pushed outward from the body in a slightly downward curve. No. 9 represents a *sea lion*, which the hunter, No. 10, secured by shooting with bow and arrow. No. 11 is the



Fig. 125.

ALASKAN NOTICE OF DEPARTURE.

boat with two persons in it, the paddles projecting downward beneath it. No. 12 is the winter habitation of the speaker.

The record given in fig. 125 was also drawn for the present writer by Vladimir Naomoff.

Nos. 1, 3, 5, and 7 represent the person spoken to, and no arms are indicated, as no response is supposed to be made by him. No. 2 indicates the speaker with his right hand to his side or breast, indicating *self*, the left hand pointing in the direction in which he is going. No. 4, both hands of the speaker are elevated, with fingers and thumbs extended, signifying many. When the hands are thus held up, in sign language, it signifies *ten*, but when they are brought toward and backward from one another, many. Among the "Plains Indians" of Indian Territory, when both hands are thus held up for *ten*, and then thrown downward to the left, it signifies *ten* times *ten* or *one hundred.* The



Fig. 126.

ALASKAN NOTICE OF HUNT.

latter practice of indicating any number multiplied by *ten*, by thus throwing to the left both hands, has not been found to obtain among the Alaskan natives. No. 6, the right hand is placed to the side of the head to denote *sleep* or *night;* in this instance denoting *many sleeps*, or, in other words, *many nights and days;* the left hand points downward to denote *at that place.* No. 8, the right hand is directed toward the starting point, while the left is brought upward toward the head—*to go home*, or *whence he came.*

The drawing represented in fig. 126 was made by an Alaskan native to illustrate that he contemplated making a journey to hunt, and the

result of that tour. No. 1 is an undulating line extending from left to right, and represents the contour lines of the country and mountain peaks; No. 2 represents the native going from home; No. 3, stick placed on a hilltop, with a bunch of grass attached—so as to be more readily visible—pointing in the direction he took; No. 4 represents the native of another settlement, with whom the traveler remained over night; No. 5 is the habitation of the figure in No. 4; No. 6, a long vertical stroke, representing the end of the first day, i. e., the time between two days—rest; No. 7, the traveler is again shown to be on the way; No. 8, making a signal that on the second day (the right hand raised, with two fingers extended, *two*) he saw deer, No. 9, the left hand pointing in the direction of the animal. No. 9 represents the deer facing the hunter, which attitude is an indication that the animal was secured.

In fig. 127*a* is indicated the course pursued by one of a hunting party, who decided to return home, leaving information *en route* as to direction. He ascends the nearest elevation of ground, a hilltop or ridge, and ties a bunch of grass or other light colored material to the top of a long stick or rod. The lower end of the stick is placed firmly in the ground, leaning in the direction taken. When another hill is ascended, another stick with similar attachment is erected, again leaning in the direction to be taken. These sticks are placed at proper intervals until the village is sighted, the left hand semicircular or dome-shaped body denoting the settlement shown by synecdoche.

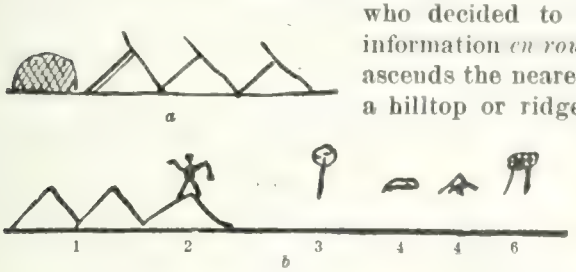


Fig. 127.

ALASKAN NOTICE OF DIRECTION.

The drawing shown in fig. 127*b* was also made by Naomoff for the present writer, to illustrate that a settlement had been attacked by a hostile party and finally deserted. The last one to leave prepares the drawing upon a strip of wood to inform his friends of the resort of the survivors. No. 1 represents three hills or ranges, signifying that the course taken would carry them beyond that number of hills; No. 2, the draftsman, indicating the direction, with the left hand pointing to the ground, one hill, and the right hand indicating the number *two*, the number still to be crossed; No. 3, a circular piece of wood or leather, with the representation of a face, placed upon a pole and facing the direction to be taken from the settlement. In this instance the drawing of the character denotes a hostile attack upon the village, for which misfortune such devices are sometimes erected. Nos. 4 and 5 indicate summer and winter habitations. No. 6 is a storehouse erected upon upright poles so as to be beyond the reach of predatory animals. The latter device is used by the coast natives generally.

Fig. 128 represents hunters who have been unfortunate and are suffering from hunger. The figures are scratched or drawn upon a piece of wood, and placed where there is the greatest chance of its discovery by passers. The stick bearing the devices is stuck in the ground and inclined toward the shelter of the sufferers. The following is the interpretation of the record:



Fig. 128.
STARVING HUNTERS

No. 1 is a horizontal line, and denotes a canoe, indicating that the persons are fishermen; No. 2, a man with both arms extended, signifying in gesture language *nothing*, corresponding to the ordinary gesture for negation; No. 3 is a companion with the right hand placed to the mouth, signifying *to eat*, the left pointing to the house occupied by the hunters, and indicating *at that place* there is nothing to eat; No. 4 represents the shelter occupied by the sufferers.

The record in fig. 129 is similar to the preceding and is used for a



Fig 129.
STARVING HUNTERS

like purpose. No. 1 represents the baidarka, showing double projections at the bow in imitation of some forms of the canoe, the two strokes at the other end representing the occupants of the boat. No. 2 represents a man making the gesture for *nothing*, both hands thrown horizontally outward toward either side. No. 3 has his right hand placed to the mouth to denote *to eat*, the left pointing to the habitation, No. 4, indicating that there is *nothing to eat in that house.*



Fig. 130.
HUNTING SCENE.

This is used by the Alaskan coast natives generally.

The record portrayed in fig. 130, refers to the success of the hunter shown in No. 3. As elsewhere stated with reference to the position or attitude of animals, it will be perceived that the two deer, represented in Nos. 1 and 2, were secured by shooting, the gun being indicated in No. 3. No. 4 represents a man with a gun held transversely above the head, this being a signal to denote *come*, or *approach*, while the individuals in Nos. 5, 6, and 7 are in various attitudes with extended arms

hands, and fingers. No. 5 is represented in the act of making a gesture synonymous with that in No. 4, attracting attention and beckoning to another to approach.

No. 6 likewise shows the gestures to *come* or *approach*, the direction of the hands being earthward, corresponding exactly with a common and widespread gesture for the person called *to approach stealthily*. Indications by gesture *to come* are uniformly, amongst the North American Indians and Innuit, made by turning the palm downward and drawing the extended index finger toward the body, as if directly indicating the path upon which the person beckoned to is directed to approach.

In No. 7 the gesture appears still more excited, and the skill in pictorial expression is certainly very cleverly indicated. The right hand of the figure calls to the beholder *to come*, while with the left hand, as with the right, the number *four* is indicated, as is also the case with the figure in No. 6. The reason of this is apparent in Nos. 8, 9, 10, and 11, denoting four black or perhaps cinnamon bears, whose heads are directed away from the group of human figures, and especially so from No. 3, who thus intimates that he was informed by his



Fig. 131.

SIGNAL OF DISTRESS AND WANT.

friends of four bears having been seen in a direction pointed to by the left hand of No. 7, but which he did not secure.

Had the heads been directed toward the speaker or owner of the record, as in the instance of the two deer, the information would have signified that the bears had been captured.

An interesting and rarely found engraving is reproduced herewith in fig. 131. Specimens of like import were described to the present writer, and pencil drawings made to illustrate the manner in which the Aigalugamut Eskimo of the southern shores of Alaska convey the intelligence that they want assistance and that they possess nothing.

The figures shown in Nos. 1 and 4 represent the habitations of two families, the storehouse, No. 2, being common property. Nos. 3, 5, 6, 7, and the human figure standing upon the habitation marked No. 4 are making signals, all excepting No. 7, calling attention by their uplifted hands and arms, while No. 7 has his arms extended, to denote *nothing*, this being a universal gesture for that idea. The Egyptian hieroglyphs and the Maya pictograph, as mentioned by De Landa in his representation of alphabetic characters, are drawn in the attitude of outstretched arms, no other part of the body being present or necessary.

The conventional gesture sign used by the Indians of the United States is to throw the flat right hand outward to the right, the hand in the first position being in front of the right side at the height of the elbow.

Some tribes and European nations who are still profuse and prolific in gesture as an accompaniment to speech frequently employ both hands, moving them outward from the front toward either side, bringing the palms uppermost, and at the same time giving the shoulders a slight shrug, an unconscious though effective emphasis to the gesture.

The accompanying figure (132) represents at Nos. 2, 3, and 4 the habitations of a village of which the author or owner of the record is a member. No. 1 denotes a water fowl. No. 2 is a habitation, from the roof of which project three shaman sticks, erected as votive offerings to deceased members of the household. The owner is also apparent on the roof, occupied by domestic duties. No. 3 is another house, from the roof of which is seen the issuings of smoke. No. 4 is another long house, from the right hand end of which is seen projecting a stick indicating the direction taken by the owner in his departure for another locality. No. 5 represents a swan (the uppermost figure), which was observed by the traveler on his journey, as also an animal, the specific name of which could not be ascertained. No. 6, however, is the traveler



Fig. 132

NOTICE OF DEPARTURE TO VISIT NEIGHBORING VILLAGE.

himself seated on his dog sledge, holding in his hand a whip, with which he is urging the dog to hasten, as the end of the journey is near at hand. He is preceded by another native (No. 7), whom he caught up with, who was dragging home some game. No. 8 is the house of the person whom the traveler is going to visit. The left-hand figure sees him coming, and shows his pleasure by extending his arm horizontally, to inform others of the village that he sees the stranger approaching. The figure on the meat pole is said to be exceedingly pleased at the news, and is seen performing some athletic feat on the horizontal pole mentioned. Another of the household is occupied at the storehouse (No. 9) in preparing for the storing of the game captured by No. 7.

Smoke observed issuing from the roof of the habitation No. 8 is similar to that in No. 3, and resembles also in graphic execution the tail of the dog in No. 6. Upon comparison it will be found that the water thrown up by a whale in blowing is represented in like manner.

ABSTRACT IDEAS.

But few instances denoting, or perhaps even suggesting, abstra ideas have been met with. The following examples embrace also gesture language as well as an attempt at recording subjective ideas.

It is seldom that the indication of speech is attempted by the Eskimo, but in fig. 133 an excellent portrayal of the idea of urging by means of the voice, or calling, is given. The two men are traveling with a sledge and three dogs, the foremost of the figures having a line extending from the side of the head—presumably the mouth—to thele ader of the dogs. The idea is also exhibited in other pictographs made by Eskimo, and is not of rare occurrence in pictographic drawings of the natives of Kadiak, as stated by Vladimir Naomoff.



Fig. 133.

NATIVE SPEAKING TO DOG.

Voice lines are frequently and similarly portrayed by the Cheyénne, Arapaho, and Dakota Indians. In pictographs relating to hunting expeditions and pastimes the first-named tribe is perhaps one of the most advanced in expressing pictorially some of the more difficult ideas, not only objective ones but subjective as well.

The line extending from the mouth to denote *speech* is a visible presentation of the common gesture sign for the same idea, made by passing forward from the mouth the extended index finger.



Fig. 134.

SHORE LINE, OR WATER MARKS.

The elevated left hand of the leader of the party is an additional indication that he is urging the dogs to quicken their pace, or perhaps to exert greater effort in pulling the sledge.

The illustration in fig. 134 represents several men carrying an umiak. The vessel at No. 3 is raised above the ground, the four lines resembling props or supports being the men's legs. The boat is being carried toward the water, the shore lines being indicated by the vertical curves at No. 2. The artist felt that he had not the skill in perspectively showing the water's edge, and so places the water lines in a position in which they may clearly be observed. The four crosses at the left of the engraving denote waterfowl, while the figures at No. 4 denote a standing one in conversation and gesture with the departing ones, and another seated upon the ground.



Fig. 135.

A CAPTIVE WHALE.

A good portrayal of the whale is given in fig. 135. The spray—a small character for which is placed over the highest ridge of the head—is portrayed to specify the nature of the mammal. The oblique line protruding from the back is the harpoon which was used in the capture.

An interesting fact connected with this pictograph is the representa-

tion of death, i. e., a *dead* whale or *killed* whale, determined by the presence of the instrument with which death was accomplished. This is rare in Innuit pictography, but frequent in Indian art.

Plate 68, fig. 3, is a large bag handle from Cape Nome. This is particularly interesting from the fact of the presence of a variety of human forms, some resembling the bird like forms or wings very much resembling the characters for "Thunderbird," as portrayed by the Ojibwa and other Algonkian tribes. The left half of the lower face of the bow represents umiaks with hunters and harpoons. Near the middle of the record is a very gracefully drawn whale tail up in the air, as the animal appears to be diving while the hunter is throwing his harpoon into its body. Upon the upper half of this same side of the bow, the two sides being divided by parallel median lines, are a number of whale tails, indicating whales that have escaped, while others are shown in the attitude of swimming. Near the left is a very conspicuous umiak occupied by four hunters. Over the bow of the boat projects a large harpoon resting upon the harpoon rest. This illustration is reproduced elsewhere with further explanation. The upper or convex side of the bow is also divided into two longitudinal ridges or faces. Upon one of these is the portrayal of umiaks rowing toward the left, one hunter harpooning an animal, while at the extreme left four hunters appear to be carrying an umiak toward the water, as if preparing for departure. The right half of the record appears to represent the other line, as there are several habitations with smoke rising from the smoke holes, votive offerings attached near by, as well as scaffolds. In this instance the latter are evidently for burial purposes and not for food. This is made clear from the fact that the votive offerings are placed in close contact with the respective burials. A little farther to the right are three men returning with a sledge and a single dog, two additional persons appearing to lag behind, as if wearied or bent with age. The representation of a human figure carrying a staff is a common indication of age or indigence, and occurs very frequently in Egyptian hieroglyphs, as well as in the mnemonic. One of the individuals shown in the Eskimo record stoops forward very much, and this is believed to indicate age. Immediately behind him is the rude outline of a fox, which may have reference to his being a shaman, or he may possibly have captured such an animal. To the right is a figure denoting a whale's fluke, indicating that the hunters are also whalers, because to the right of this fluke is an umiak with two persons sitting in it using the paddle. The hunter in the bow of this boat has his paddle projecting forward and not quite touching the water, the perspective being admirably represented, as it does not cut through and destroy the structure of the boat. Upon the other face of this same bow are several umiaks in pursuit of a whale and several natives dragging seals, two of these natives having attached to the rear part of their bodies appendages drawn exactly like a dog's tail or a fox's

tail, which indicates that the natives belonged to those classes referred to by Captain Beechey in his Notice of the Indians of Schisma Reef Inlet, who wore such ornaments attached to their clothing, giving them a ridiculous appearance, and may probably have occasioned the report of the Chukche that the people of that region have tails like dogs.

The remaining figures upon this bow consists of human beings and a few animal forms, near the extreme right being a curious outline of an umiak, the occupants of which are shown with extended arms from which numerous short lines project. These may denote the fur upon the sleeves of the dress, or they may have other signification, or they may possibly be merely a fancy of the engraver.

SHAMANISM.

Although the Eskimo are extremely superstitious, and numbers of them are recognized shamans of ability, yet there seems to be a general scarcity of pictographic matter pertaining thereto. This is strange, too, as among some peoples the records are almost entirely devoted to shamanistic ceremonies, and in several instances, as among the Ojibwa, for instance, the mnemonic and hunting records—all shamanistic—are the only relics of pictography at this day.

MYTHIC ANIMALS.

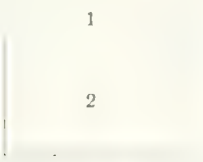
But a few specimens portraying mythic animals occur, the following being the most conspicuous:

The accompanying specimen, on plate 72, is from Cape Prince of Wales, and was collected by Mr. E. W. Nelson. It represents a whale-line guide, and is used on the bow of an umiak used for whale hunting. The two pieces of ivory, measuring in height 4¼ inches, are ingeniously joined together by mortising, the slot in either piece being made so as to face its fellow; and into these slots is afterwards placed a piece to hold both sides in place, by being secured by ivory pegs which pass through at right angles to the connecting piece, as will be observed in the illustrations. In the lower cut will be noticed an additional piece, larger than the round pegs, which consists of a large glass bead.

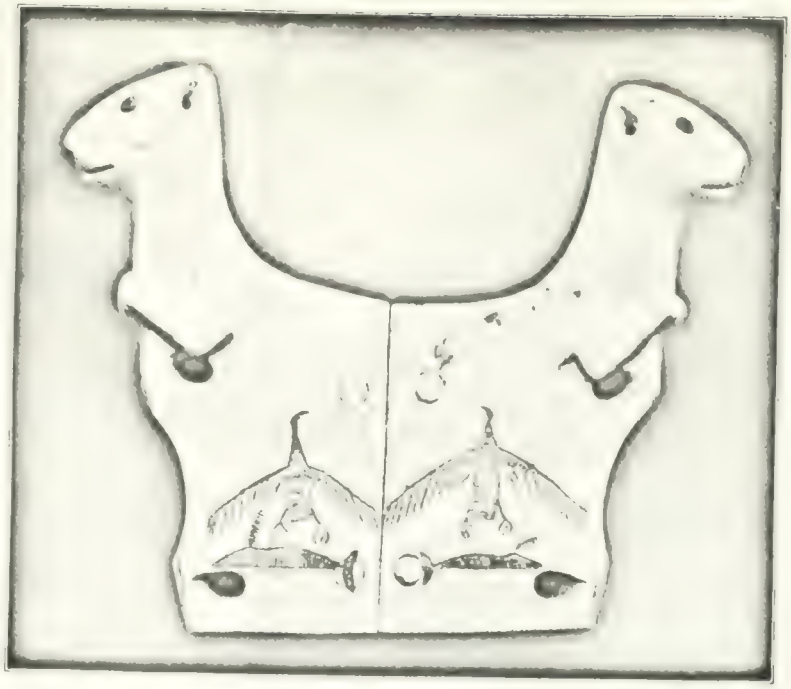
The horns of the specimen represent the heads of a mammal, the eyes consisting of wooden pegs, while the nostrils are drillings filled in with pegs which appear to have been blackened.

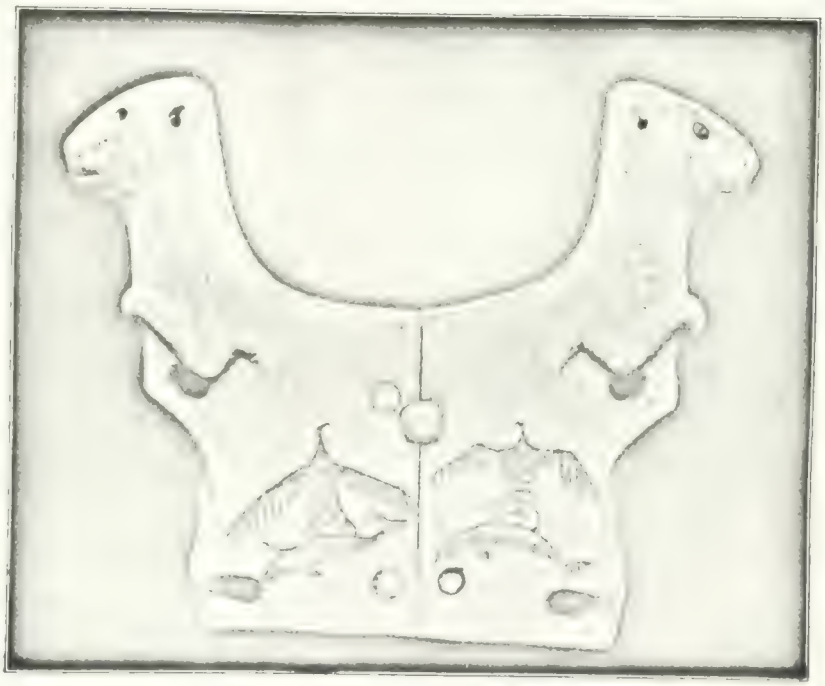
In the upper figure are portrayed two thunderbirds or eagles, each descending to grasp a whale, the latter having spray in the act of being ejected from the "blowholes." In the lower figure the birds are represented as having secured the whales and have risen into the air, as seems indicated by the form of the whale on the right-hand side. The engraving of the characters is decidedly bold and expressive, the entire surface of the etched portions still retaining more or less black color. The general artistic form of the bird is very like that usually

EXPLANATION OF PLATE 72.

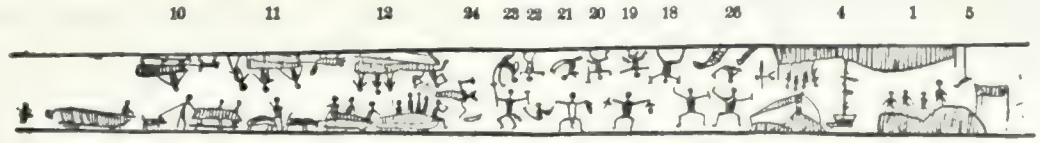


Figs. 1 and 2. Obverse and Reverse of Whale-Line Guide, Placed on Bow of Umiak, Used in Hunting.
(Cat. No. 48169. U. S. N. M. Cape Prince of Wales. Collected by E. W. Nelson.)





MYTHIC BIRD AND WHALE ON HARPOON REST.



1



2



3



4

RECORDS OF SHAMANISTIC CEREMONIALS.

found in Algonkian pictographs, and does not keep in general harmony with Alaskan art, although the whales, which are true, typical, Alaskan examples, seems at once to repel the suspicion of intrusive characters, or such as are non-Innuit.

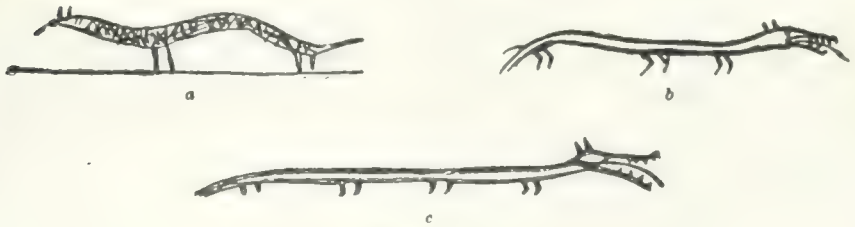


Fig. 136.
MYTHIC SERPENTS.

The four perforations in the piece are for attaching it to the gunwale of the umiak.

The illustrations given, *a*, *b*, and *c*, of fig. 136, represent mythic serpents, and are described in some of the folk tales. *c* very much resembles the "water monster" of the Ojibwa, though it is scarcely possible that the cult of the latter could have been conveyed, even in the slightest degree, to the Eskimo. Other intervening tribes, notably so those of the Athabascas family, have serpent myths, and from this people the idea may have been conveyed to the Innuit, especially as the latter are in frequent communication with the Kenai Indians, the northwesternmost tribe of the above-mentioned famiy.



Fig. 137.
MYTHIC ANIMAL DEVOURING NATIVE.

It has been suggested, too, that the creatures may have been copied from or suggested by illustrations in newspapers or other literature.

In fig. 137 is shown a mythic creature taking up a man and preparing to devour him. The belief in water monsters survives among the natives of the southern coast, opposite the island of Kadiak, a creature resembling somewhat a reptilian form in imitation of an alligator, of which illustrations are also given elsewhere.



Fig. 138.
MYTHIC ANIMAL.

The outlines in fig. 138 are not sufficiently specific to indicate the kind of creature intended, but the indication of the heart, together with the *voice line*, or *life line*, extending therefrom to the open mouth, is very much like some of the figures found among the Zuni and the Ojibwa.

This peculiar line denotes the animal to be of a mythic or, perhaps, sacred character, and has reference to ceremonials known only to the shamans or members of certain cult societies.

In plate 66, fig. 2, is the engraved figure of a seal, within which are various objects, animate and inanimate, resembles that class of sacred objects often carried by the Ojibwa jes'sakid or juggler.

Fig. 139 represents a series of characters only part of which are intelligible. No. 1 is evidently—from the curve of the horns—a reindeer, while No. 2 is explained to be a mythic animal—a serpent, as similarly elongated quadrupeds have been interpreted by some natives. No. 3 appears to be the first of a series of seven figures (Nos. 3, 4, 5, 7, 8, 9, 10) which are apparently decorated with fringed coats, like the neighboring Kolosh and Kenai Indians, and marks of bird or other faces upon their heads.

No. 6 is an aquatic bird in flight, which at once shows the difference in execution of ideas, the human figure being bifurcated as above indicated. No. 11 is a mammal, resembling the usual character denoting the *putoridæ*.

CEREMONIALS.

Mr. Murdoch remarks that at some of the ceremonial dances of the Eskimo, at Point Barrow, the participants wear masks, some of which are sometimes decorated with slight ornamentation.



Fig. 139

MYTHIC CREATURES.

Gorgets are also worn, and fig. 3 represents an excellent example with ornamentations relating to fishing and hunting. The same author remarks, also, that the more southern Eskimo of Alaska are in the habit of using in their dances very elaborate and highly ornamented and painted masks, of which the National Museum possesses a very large collection. The ancient Aleuts also used masks. On the other hand, no other Eskimo, save "those of Alâska, ever use masks in their performances, as far as I can learn, with the solitary exception of the people of Baffin Land, where a mask of the hide of the bearded seal is worn on certain occasions. Nordenskiöld saw one wooden mask among the people near the winter quarters of the *Vega*, but learned that this had been brought from Bering Strait, and probably from America."[1]

The dancing mask previously referred to and shown in plate 16 is from Kuskoquim, and was collected by Mr. E. W. Nelson. The specimen is of interest from the fact that it constitutes perhaps the only example of woodwork bearing pictographs in color. The specimen, including the lower pendant, measures about 9½ inches in length, the width of the largest piece—bearing the eyes, nose, and mouth—being almost 3 inches across. Upon the top and right side are a number of punctures for the insertion of feathers, only three of the latter being now present. The four slats of wood are attached to the main piece

[1] Ninth Annual Report of the Bureau of Ethnology, 1887-'88, 1892, p. 370.



A



B



C

SHAMANISTIC CEREMONIALS.

by means of thin strands of bark. The several pieces were rudely besmeared with a white chalky paint, while over several portions of them are markings in black.

Upon the left cheek of the mask are four vertically arranged figures of masks, rather grotesque in expression. The lower one is not as elaborately drawn as the others. Upon the upper piece of wood, upon the left of the mask, is an outline of an umiak, with sail spread. In the bow of the boat is the figure of a native with hands and arms uplifted, while another figure is visible in the stem acting as helmsman.

The markings upon the remaining piece are probably meaningless.

Among the Indians of the Northwest Coast, the Iákutat and Tshilkat, and to a certain extent the neighboring tribes, masked dances are of frequent occurrence, the purport being usually ceremonial; though at this day much of the former sacredness of these ceremonials has become debased. Among the Eskimo ceremonial dances are of great importance, though not of such frequence as among their southern neighbors.

In fig. 140 the vertical strokes shown by Nos. 1 and 10 represent the timbers supporting the structure within which the dance takes place, not sufficient space being available upon the specimen of ivory to rep-



Fig. 140.

CEREMONIAL DANCE.

resent the roof. Nos. 2, 7, and 9 are the drummers, each armed with a flat, tambourine drum, generally used by the shamen everywhere. Nos. 3, 4, 5, 6, and 8 represent the dancers, marked with what appears to be bear heads—made of some light wood, such as cedar. The attitudes of the dancers are remarkably clever and lifelike, showing the various attitudes, both natural and assumed, in imitation of the animal represented, as may be found at any dance of aboriginal peoples when they attain that particular degree of enthusiasm consequent upon and perceptible to the beholder after a feast.

This engraving, plate 73, fig. 2, is one of the most interesting on account of the portrayal of the transmission of sound, a stage of development found in but few instances in Alaskan pictographs, but of frequent occurrence among the Cheyennes, and other neighboring tribes, in the vicinity of Fort Sill, Indian Territory, and other posts farther north.

The entire record relates to a ceremonial dance, held on account of a sick person, and the indication of the village houses and sledges of visiting natives.

The narrator is indicated at No. 1, his arms outstretched to embrace the surrounding area as the place where he was, and which, perhaps,

is his residence also. Nos. 2, 6, and 8 denote scaffolds for food, the accumulated material being apparent upon the transverse poles. At the residence at No. 3 smoke is emerging from the smoke hole in the roof, and someone is also upon the roof of the entrance reaching outward toward what may have been intended for a scaffold, but which, because of erosion, had become partly obliterated, as have also portions of the human beings beneath. The next house, No. 4, also has a column of smoke rising from the smoke hole, while several vertical lines before the entrance indicate the original portrayal of the necessary storehouse or food scaffold. No. 5 is another permanent habitation, while at No. 7, over the roof of the entrance to the house, is the outline of a man, horizontal and with the hand thrown downward as if making a common gesture sign for *lying down*, or *to lie there*, having reference perhaps to the recumbent position of the occupant, who may be sick and for whose benefit the ceremonies are in operation. A heavy column of smoke is issuing from the chimney.

Upon the house No. 9 are two persons apparently interested in something or someone at No. 7, no doubt referring to the sick man. At No. 10 is designated the entrance to the house No. 9, and upon the roof are four persons; the one at the right holding in one hand tambourine drum, while with the other hand he is beating it, the sound therefrom passing forward over the group of dancers before the house. In the rear of the drummer are three assistant musicians, and from the absence of drums or rattles they appear to be singers, the belief being furthermore strengthened from the fact that each of the three has an arm or hand elevated; the one at the right appearing to place his hand before his mouth to denote in gesture language *speech*, *voice*, *song*, a common portrayal in various Indian pictographs, as well as Maya, Mexican, Egyptian, and Hittite hieroglyphs and objective representations of *voice* in various forms. The remaining figures also appear to have their hands directed upward before the face, an approach in gesture to the preceding. The sign for sing, singing, is made by holding the palm upward and passing the hand upward and forward from the mouth, though beginning before the neck and passing at from 6 to 10 inches before the mouth.

The narrow vertical line with streamers of cloth or calico attached, and surmounted by the wooden effigy of a bird, is a votive offering or "shaman stick" erected upon the roof of the house No. 9 in commemoration of one of the household.

The character at No. 12 is another shaman, armed with a drum, which he holds in one hand and with the other strikes the head with a drumstick, which is seen crossing the surface in the endeavor to drive away one of the evil spirits or demons hovering about in the air after being expelled by exorcism from the body of the sick man.

The group embracing nine figures, No. 13, denotes the assistant shamans driving about and punishing the evil spirits—the same one

being here reproduced with uplifted hands and once as a small being—they being masked and decorated with fringed sleeves and garments and armed with weapons possessing mysterious power in exorcism. The demon appears in nearly each instance to supplicate the shaman not to strike with the uplifted rod, the gesture sign for supplication being accurately portrayed, both hands being elevated toward the one addressed, not only surpassing in pictorial execution the same idea as found among other American aborigines, but being exactly similar to the hieroglyph, for the same idea, of the Egyptians.

Nos. 14, 15, and 16 are sledges, drawn up near to the place of the dance. The representations of the sledges are more nearly like some figures of the baidarka shown elsewhere, because of the almost vertical bow and the dark line along the top, consisting of two horizontal lines within which are short vertical strokes, the latter denoting bales of peltries and furs received from other natives for barter. The man at the fore part of the sledge in No. 14 is smoking a pipe, while the figures on top of both No. 14 and 15 appear to enjoy the scene, their arms apparently raised as if in acclamation. At No. 16 the dog is assisted in pulling the sledge by the man, who is dragging at a cord, the load being evidently a heavy one, as the man at the side of the sledge is also tugging at it to assist in propulsion.

The scene presented in plate 73, fig. 1, is of interest, because the ceremonial dance is performed in the middle of the village, as indicated by the peculiar distribution of the habitations and the sledges of the visitors.

The characters in Nos. 1, 2, and 3 denote permanent or winter habitations, upon which are observed some of the witnesses to the dance. No. 4 is a high pole erected between the habitations, and upon it is an effigy of an animal, while the pole itself is decorated with streamers of calico or cloth, flannel, etc. No. 5 is a slender stick, upon the top of which is placed the wooden effigy of a bird, the whole being designated a "shaman stick" or votive offering, being a token or memorial erected by a relative or friend to one deceased. The memorial is intended also as a "luck stick," i. e., a public testimonial of wishing luck to the spirit of the dead.

Near the habitation No. 2 is an oblong figure upon stilts, denoting a scaffold upon which food is stored. These are so erected as to be beyond the reach of dogs and noxious or predatory animals.

Nos. 6 to 12 are sledges belonging to a party of fur traders who chanced to stop at the village. At Nos. 6 and 12 the dogs have already been unhitched and the owners are seated at the front, smoking their pipes. Bales of goods are indicated by the solid outline of oblong figures raised upon short lines above the sledges themselves.

The human figures represented by Nos. 13 to 22 are the shaman and his assistants. These are duplicate characters of the latter portrayed in driving away evil spirits, Nos. 25 to 26, which are indicated

as human forms, curved, with the feet and legs turned upward and the arms thrown forward, as if making violent efforts at jumping. These spirits are driven around from one point to another, some shamans driving and striking them to compel their departure, while others are assisting in exorcism by using the magic rattles, seen as short T-shaped figures in the hands of some of the assistants.

All of this ceremony is for the purpose of exorcism, the expulsion of the demons of disease from the body of a sick man, indicated as wrapped up at No. 24, where he is supposed to be lying upon the ground.

The entire grouping of the figures is, necessarily, placed along two base lines, each line running parallel with the border of the ivory bow upon which the record is portrayed. The heads of the different individuals, as well as the housetops and the tops of the sledges, are all directed inward toward the middle, this being the limit of possibility of artistic execution in attempting a bird's-eye view of the whole village and its dancing ground—the latter being about the high decorated pole, at No. 4, but for lack of space the ceremonial is transferred to where it is drawn—the intention being to represent the dancers as if in a circle, their movements being directed around the pole bearing the animal figure.



Fig. 141.

SHAMANISTIC CEREMONIAL

Two distinct styles of engraving occur in the pictograph represented in fig. 141, although they are probably by the same artist. The habitations shown in Nos. 1 and 3 are in delicately engraved lines quite foreign in execution to the crudely carved figures in Nos. 4 to 11. The houses are in profile, and both indicate the place of entrance at the right side, beneath the delicate vertical rod projecting above. Human figures are seen upon the roofs, those upon No. 3 appearing to be occupied in an animated conversation, as suggested by the attitude of the arms.

The vertical poles, connected by a crosspiece, indicated in No. 2, represent a rack where fish and the meat of game are suspended for drying. The figure of a man engaged in some occupation connected with the rack is observed between the vertical poles.

The human figures indicated in Nos. 4 to 9 are engaged in a dance, the attitudes of all but two being well executed in the representation of the peculiar manner of leaning forward the body, common to nearly all aboriginal tribes when participating in such pastimes. In Nos. 6 and 8 are seen peculiar tail-like appendages, representing merely ornamental streamers often tied to the belt at the spiral portion to represent the tails of animals which these natives sometimes imitate, both in dress and actions.

The two mammalian figures at the extreme right—Nos. 10 and 11—are dogs, facing one another, an attitude assumed by strangers, as these had probably accompanied their masters to the place of the ceremony portrayed.

Plate 73, fig. 4 represents a ceremonial dance. The characters in Nos. 1 and 4, representing three pairs of human forms, are dancers, who are aiding the shaman at No. 2, who is shown with his hands uplifted and throwing them circularly about as if "stirring up a breeze," which he is in fact doing, in so far as it pertains to the spirits of the air, whose aid he is invoking. All this is being done because the seated figure at the left end of the habitation, No. 3, is requesting the shaman's assistance. Four other human figures are indicated about the same habitation, though partly worn off, and at the right-hand upper corner is a shaman stick or votive offering, placed there to the memory of one of the owner's family. The stick appears to be surmounted by an effigy of a bird, this being the common practice. Nos. 5 and 6 appear to be dancers, each armed with rattles, small round frames of wood, having both flat sides covered with seal gut or buckskin, being used by shamen or their assistants. No. 7 denotes another habitation, at the left end of which is a votive offering and at the other a human figure, who, with his left hand, reaches down to another, No. 8, who appears in the act of winking aid from spirits in the air.

No. 9 is undetermined, but Nos. 10, 11, and 12 are reindeer, the first and last having attached to them the spirit or guardian of the shaman, who has compelled the animals to come within reach of the hunter's gun, though only one of the three, No. 12, having been secured.

No. 13 represents the shaman in another instance when his services were requested; this time by a native shown in No. 14, at the left-hand end and seated or leaning against the dwelling. Some votive offerings are also perceived upon the roof, while to the right, No. 15, are a number of natives indulging in a dance, probably a ceremonial one, as the record is one pertaining to shamanistic matters entirely.

The ivory bag handle shown on plate 32, fig. 7, is an excellent piece of workmanship, and presents evidence of artistic expression not met with in any other specimens.

The central disk presents the relief carving of a human face, the nose being clearly indicated as different from that drawn or engraved upon the seal's face, while below the mouth are the vertical lines to denote the tattooing practiced by the women. The expression of the face is rather firm and represents a frown. The ring surrounding the face is the fur hood, the fur itself being indicated by the short radiating lines extending therefrom.

The opposite side of the specimen is a reproduction of the obverse, with the exception, however, that the face is that of a man, the mouth being portrayed by having the corners turned upward to denote a smile, while below either corner is a circular spot to indicate the labrets. The furred hood is also shown.

Upon either side of the face are seals, ornamented with rayed circles, while along the lower edge are two parallel lines bearing interior decorations of simple cross lines.

The upper edge has a simple longitudinal crease, while beneath this line is furthermore ornamented by short lateral ones.

INDIVIDUAL SHAMANISM.

The illustration presented in fig. 142 is perhaps unique, the original having been obtained from a native well versed in shamanism, and in fact professed to be one.

Descriptions of shamans' ceremonials in medicine lodges, especially in the initiation of candidates, were published by the present writer in the Seventh Annual Report of the Bureau of Ethnology, and relate to the Ojibwa Mide'wiwin or Grand Medicine Society, a cult society known to the Catholic Fathers who first came to Canada, but which, until the above report was published, had never been thoroughly understood. The complete exposition of the mythology and ritual thereto was given by the present writer; and a similar contribution to science has been recently published in the Fourteenth Annual Report of the same Bureau, and embraces the exposition of the ceremonials of the several cult societies of the Menomini Indians, the report being a part only of the memoir which embraces a complete history of that tribe, first known through their discovery by Nicollet, in 1634.

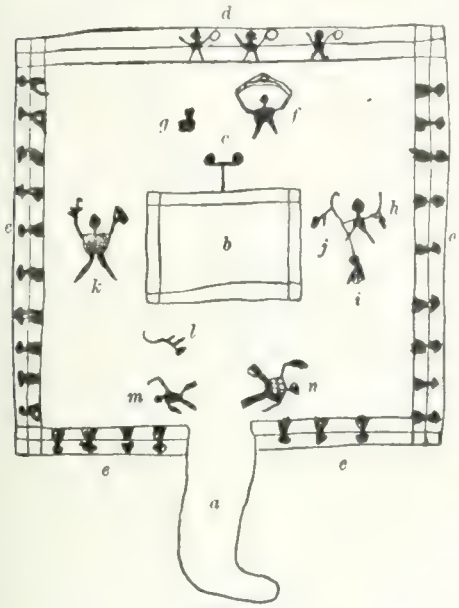


Fig. 142.

SHAMAN CURING A SICK MAN IN THE CEREMONIAL STRUCTURE.

The illustration given above, representing an Eskimo shaman healing a sick man, with the explanation given by the recorder thereof, is of peculiar value and interest. The Innuit ceremonial structures are partly underground, the roof being covered with turf and other materials, and the entrance thereto being by a partly underground or possibly tunnel-like passage-way.

In the figure, *a* represents the entrance to the chamber, or lodge, as a habitation of natives or Indians is often designated; *b*, the fireplace; *c*, a vertical piece of wood upon which is placed a cross piece, upon each end of which is a lamp made of steatite and fed with fat; *d*, the

musicians upon raised seats drumming upon tambourine drums, and producing music to the movements of the shaman during his incantations in exorcising the demon, or evil spirit, supposed to have possession of the patient; *e*, visitors and friends seated around the interior of the chamber to witness the ceremony; *f*, the shaman represented in making his incantations preparatory to exorcising from the body of the patient the demon to whose presence the disease is attributed; *g*, the patient seated upon the floor of the chamber—the legs being folded under his body and scarcely visible to the beholder, they are omitted in the pictograph. *h* represents the shaman in another stage of the ceremonies, driving out the demon. *i* is another figure of the patient—from his head is seen to issue a line connecting it with *j*. *j* is the demon. *k* is the shaman in the act of driving the demon out of the lodge or chamber—in his hands are sacred objects, his personal fetish, in which his power lies; *l*, the flying demon endeavoring to escape through the doorway. *m* and *n* are assistants to the shaman, stationed at the entrance to strike and hasten the departure of the demon.

Plate 64, fig. 1, represents a drill bow from the north of Norton Sound. Contrary to the usual custom, this specimen is curved edgewise, so that upon the back appears one continuous record, while upon the front side there are two, the front being beveled from the central line. Quite a number of interesting figures appear upon this record, the results in hunting having apparently been brought about by the kind offices of a shaman, to whom application has been made for success by the recorder or owner. In the small space at the extreme left is the outline of a human figure, the arms bent and the hands touching the sides, two prominent ears, and three lines directed upward from the head. This represents the shaman whose influence had been obtained. Immediately below this human figure is an oblong outline attached to a delicate groove or line extending forward to a whale. This represents the float attached to the harpoon line. The next character represents a seal facing the right, its vis-à-vis being a native crawling along with a spear in his hand, evidently intending to capture it. The short etchings projecting from the base line and extending to the right to a distance of about three inches, represent a marsh. Five seals are shown about the middle of this marsh, as if swimming in the water with only the head and top of the body projecting. Beyond these animals, and at the end of the marsh, is the outline of a boat. Some distance to the right is a figure very much resembling a crouching bear. This again is a reproduction of the figure of the shaman whose kindly offices had been secured upon another occasion. He seems to be throwing forward a magic bullet which, used by the hunter in the kaiak above him, enabled the hunter to secure the seal he wanted, as shown by the bullet mark above the animal a short distance in front of the kaiak. Upon the same face of the bow will be observed a number of characters as if suspended from the upper line thereof. By turning the bow about, the

pictures will be brought into proper position. Beginning at the left, are two elongated figures, each upon stilts, which represent the scaffolds upon which these boats are placed for drying. Three winter habitations are next in order, about which are a number of human beings in various attitudes. Smoke issues from the top of the house, and the vertical rods projecting from the first and second indicate votive offerings. To the right of the third house are three human beings standing about an umiak, which is drawn foreshortened, and a line extending to the right to an oblong figure, which is a seal which they have captured. There are outlines of five natives with arms extended, one with a spear, but the import of these characters is not intelligible. The next figure, however, is shown in the act of dragging a seal, while beyond it is another seal, toward which a native is throwing his spear. Beyond the latter is shown the body of another seal, toward which a hunter is crawling on all fours, and in an opposite direction from him is his companion engaged in like pursuit of another seal, shown to the right. As the bow is shown in the illustration, with the figure of a shaman at the right, it will be observed that along the upper face are a number of illustrations which represent various avocations. At the extreme right is the body of a reindeer lying upon the ground, the horns at the right projecting upward, and upon the body of the animal, as well as behind it, are birds feeding upon it. Following this toward the right are four other animals of like species, with the outlines of a fifth, which can not be clearly determined. Following the base line for some distance, we come to another deer in the act of browsing. A little beyond the middle, toward the right, are three natives, the first going toward the right with his harpoon directed forward, the second with a line extending to the right to some object upon the ground, which the third appears to be stabbing with his spear, the weapon being uplifted. This may represent the killing of a seal. Another native is seen approaching this group of three, beyond which is the outline of a large mammal, evidently intended to represent a deer.

By again turning the bow upside down, so that the upper line becomes the base line, another record presents itself. The group of figures at the extreme left denotes two natives occupied in boiling something, as their hands are attached to short lines extending into the kettles, which are placed against the fire from which the smoke is rising. It is very likely that they are cooking the meat of the reindeer, as the hide of the animal is suspended from the horizontal drying pole or scaffold at the right, beneath which another native is occupied in hanging up the meat. The large, irregularly drawn body to the right of this scaffold appears to denote a habitation. Two human beings are engaged between this and a triangular body which may denote a summer habitation, the latter being usually made of bark, canvas, or boards. To the right of the triangular building is a human being, beside him being another scaffold or drying pole from which is suspended the hide of a

small mammal. Beyond the middle of the bow, toward the right, is a figure of a kaiak with a native within it paddling forward toward a larger umiak under sail. In front of this stands a man with a gun uplifted, as if shooting toward the deer whose feet are attached to the upper line or base line of the preceding record. Beyond this is the outline of another umiak under sail, and occupied by three hunters.

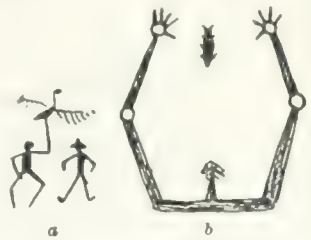


Fig. 143.

a, SHAMAN MAKING INCANTATIONS; b, INVOKING AID.

In fig. 143, No. *a*, is represented a native who desired the services of a shaman, and, upon visiting one, declared his needs and probably paid the fee usually required.

The shaman, making his usual ceremonies of incantation to invoke his guardian spirit, or tutelary daimon, is shown with that creature about to depart on the mission desired by the shaman.

The spirit is a bird, and, as all flying creatures are deemed lucky, it is here represented in unusually large size, to increase the importance of the performer.

Another illustration of making incantation is shown in fig. 143*b*, the shaman expressing his ability to cause fish to come to the hunter by whom the proper fee is paid. The drawing is taken from an Alaskan shaman's drum, but appears to be foreign to pure Eskimo drawing, having probably originally come from the Thlinkit, or neighboring tribes of Athabaskan stock.

A remarkably interesting engraving is reproduced in fig. 144. The profession of the Eskimo shaman is very like that of his confrère of the Menomini and Ojibwa Indians, of Wisconsin and Minnesota, respectively. He has the power to invoke his personal guardian or tutelary daimon in aiding him to secure the services of other deities or spirits to perform certain acts of exorcism, or incantation and invocation, so that a spirit messenger may be sent on almost any mission for information that may be desired; or the guardian spirit or daimon may bring about some events, or control the actions of both men and animals, as may be desired.



Fig. 144.

SHAMANISTIC CEREMONY.

In the illustration, fig. 144, is shown first, at No. 1, an assistant, who aids the performer, No. 2, by using the magic or "medicine drum." No doubt a hunter has called, and for a certain consideration, or promise of some parts of the game secured, has solicited the shaman for "hunting medicine," in order that he may secure a whale.

The two men, the shaman and his assistant, are both within the shaman's lodge, the inclosure or habitation being indicated by the

circular line which surrounds them and is planted upon the ground or base line. The mystic influence has been made to secure a whale, No. 4, which has been compelled by the shaman's alleged supernatural power, in the guise of an anthropoid deity, to swim to the locality where the ceremonies are performed, in order that the hunter may be enabled to reach him. The short serrated marking between the whale's head and the figure of the spirit denotes the spray spouted from the whale.

The line connecting the spirit and the shaman's hand is the indication of the magic influence possessed by the latter over the spirit messenger.

Other illustrations of shamanistic power are given, especially examples of exorcism of demons possessing the sick and to whom illness is attributed.

The illustration in fig. 145 is reproduced from a walrus-ivory drill bow in the museum of the Alaska Commercial Company, of San Francisco, California. The interpretation given to the present writer is as follows:

Two sick men were brought to the shaman for treatment. The shaman's summer habitations are represented in Nos. 1 and 2, the

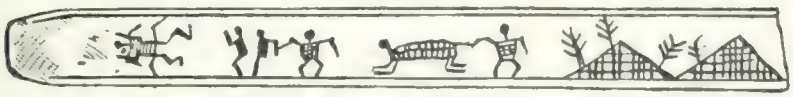


Fig. 145.

SHAMAN EXORCISING DEMON.

presence of trees denoting that there was a grove close by. No. 3 is the shaman, who is represented in the act of holding one of his "demons" or personal deities, with whose aid he pretends to expel malignant spirits or demons from the body of the sick man. No. 4 is the demon under control of the shaman. No. 5 represents the same shaman in the act of exorcising the demon in the patient. Nos. 6 and 7 are the sick men who are under treatment and from whom the "evil beings" have been expelled. The two "evil beings" or demons are shown in No. 8, represented in violent movement in their endeavor to escape the powerful influence of the shaman.

The engraving presented in plate 73, fig. 3, is without doubt one of the cleverest artistic products thus far received from Alaska and known to be the work of a native. The entire grouping of the herd of reindeer, some of the animals walking leisurely along while others stop to browse, and while the foremost manifest curiosity and alarm, indicates that the artist was not only a close observer of the habits of the animal, but had an unusually keen acquaintance with the anatomical structure and the attitudes assumed under different circumstances so as to express the emotions.

The hunters, Nos. 18 and 19, had gone to a shaman to seek his aid in securing luck for game, and the shaman (who is represented by the upper part of the body only, hands outstretched, above the two reindeer, Nos. 11 and 12) being favorably disposed, is driving the game in the way of the hunters, his assistants, at Nos. 1, 2, and 5, also driving animals by being portrayed as if riding upon their backs.

No. 4 represents a fawn, the open mouth suggesting its crying to its parents, while the upper figure at No. 3 and the legless one at the space between Nos. 7 and 8 are represented as beyond the first file of animals—an attempt at perspective, no doubt.

The attitudes of Nos. 12 and 16 are a good attempt at foreshortening, rather a difficult undertaking for a native barbarian.

A doe is also shown above the animal at No. 16, walking parallel with the herd, No. 17, but her legs are supposed to be invisible because of her being beyond those in the foreground.

The herd at No. 17 is portrayed as an elongated body with numerous heads and two legs more than necessary for the eight animals indicated. In nearly all instances the horns are carefully drawn so as to show the peculiar curve toward the front as well as the so-called snow shovels—the horns projecting forward and downward over the nose, and by means of which the animals cut through the snow in search of lichens and other food.

Nos. 18 and 19 are the hunters with bow and arrow, the attitudes assumed in shooting being well represented. No. 20 is the hut.

In the accompanying illustrations, plate 74, are three views selected from a drill bow, in the museum of the Alaska Commercial Company of San Francisco, California. The rod upon which the characters occur is here presented in three sections, A, B, and C. In A is found the beginning of the narrative of one who applied to a shaman for success in hunting; which extends only one-half of the length of the rod. The course of the inscription is then continued on the adjacent side of the rod at the middle, and reading in both directions (sections B and C), toward the two files of approaching animals. Band C occupies the whole of one side.

The following is the explanation of the characters:

A. No. 1 represents a baidarka, or skin boat, resting on poles; this is done in order that the vessel may dry. No. 2 is one of the habitations of the village, as are also those in No. 4, and the storehouses in Nos. 5 and 7. No. 3 denotes a tree located in the village. No. 6 is a tree, between the branches of which and the roofs of the houses are placed poles for drying food—fish, etc. The characters from No. 1 to No. 7 signify the settlement, the home of the person to whom the history relates. No. 8 is the hunter sitting on the ground asking for aid and making the gesture for supplication, asking by elevating both hands toward the sky, or toward the one from whom aid is solicited. No. 9 is the shaman to whom application is made by the hunter desiring

success in the chase. The shaman has finished his incantations, and while still retaining his left arm in the position for that ceremony holds the right toward the hunter, giving him the success requested. No. 10 is the shaman's winter lodge, while Nos. 11 and 13 are trees surrounding it, as well as the summer habitation noted at No. 12.

In the illustration, B, is a record pertaining to the hunter's previous application to another shaman with whom no satisfactory arrangement could be made. Consequently, the shaman caused the game to flee and get out of the hunter's way. The detailed description is as follows:

B. No. 14 is a tree standing beside the habitation No. 15, upon which the shaman is observed standing and driving back the game visible over the remainder of the scene. No. 16 is a deer, the nearest to and the first to feel the shaman's order to return to a safe place. No. 17 are the horns of a deer protruding from the surface of the river which the animal is swimming. No. 18 is a fawn, recognizable also by the unusually long legs as compared to the size of the body.

In the last panel, C, is recorded the continuation of the story begun by the recorder or hunter in A, No. 8.

No. 19 represents a tree located near the hunter's habitation, which is shown in No. 20. The hunter, designated in the attitude of shooting, at No. 21, after having been granted the request for success, placed the effigy of his totem upon the top of his house as a mark of gratification and to insure greater luck in his undertaking. Nos. 22 and 23 embrace five deer which were secured, the heads of the animals being turned toward the hunter, denoting that the game was captured. No. 24 is the shaman's demon driving the game toward the hunter, while in Nos. 25, 26, 27, and 28 are indicated other demons who were invoked to aid the chief tutelary guardian of the shaman primarily invoked for this service.

The figure in No. 25 is a water monster resembling, in this instance, a whale, but which is represented by other of the Innuit as a four or six legged serpent. The latter idea is common in the mythology of the Algonkian tribes; but the existence of such a being in the mythology of the Aigalu′χamut and Kiate′χamut, Innuit as well perhaps as among others of this nation, seems entirely original with them.

Plate 64, fig. 2, represents a bone wedge for splitting thin strips of wood for fish traps. The specimen is from Nunivak Island, and is remarkable for the curious engraving which is shown to exist upon the upper surface. It will be observed that the outline within which almost all the small figures are drawn denotes a seal, a median line extending from the eye backward almost to the tail. Above and beneath this are various figures of guns, animals, plants, and straight lines, while upon the reverse, at a point nearly 2 inches from the tail, there projects from the median line a many-branched tree, immediately above which and to either side are shown two reindeer as if browsing. These reindeer present a peculiarity which has been

especially noticeable in Zuñi and Algonkian pictography to represent what is designated as the life line. This consists of a line drawn from the mouth, or very near it, backward into the body, where it terminates in a line, or more generally a triangular figure, to denote the head. It is a shamanistic figure, and indicates that the shaman who possessed it had influence over the life of the animal so portrayed. This subject has been more clearly described in connection with the shamanistic ceremonies of the Ojibwa Indians in the engraving of the Midē'wiwin or Grand Medicine Society of the Ojibwa, published in the Fourteenth Annual Report of the Bureau of Ethnology.



Fig. 146.
VOTIVE OFFERING.

VOTIVE OFFERINGS AND MORTUARY.

Fig. 146 is copied from a piece of walrus ivory in the museum of the Alaska Commercial Company, San Francisco, California, and was interpreted to the present writer in San Francisco in 1882.

The left-hand figure is a votive offering or "shaman stick," commonly designated a medicine stick, erected to the memory of one departed. The "bird" carvings are considered typical of "good spirits," and the above was erected by the remorse-stricken individual who had killed the person shown.



a



b

The headless body represents the man who was killed. In this respect the Ojibwa manner of portraying a man "killed" or "dead" is similar. Comparison with another Eskimo drawing, designating a "killed whale" by the presence in the back of a harpoon, may be made herewith as another conception of the idea of "dead" or "killed."



c

The right-hand figure represents the homicide who erected the "grave post" or "shaman stick." The arm is thrust downward toward the earth, to represent the gesture for *kill*. This is common, likewise, to the gesture for the same idea as made by the Blackfeet and Dakota Indians.



d



Fig. 147.
INSCRIPTION ON GRAVE POST.

In fig. 147 is reproduced an inscription from a grave post commemorating a hunter, as land animals are shown to be his chief pursuit. The following is the explanation of the characters:

No. *a* is the baidarka, or boat, holding two persons. The occupants are shown, as are also the paddles, which project below the horizontal body of the vessel.

No. *b* is a rack for drying skins and fish. A pole is added above it, from which are seen floating streamers of calico or cloth. No. *c* is a fox. No. *d* is a land otter, while No. *e* is the hunter's summer habita-

tions. These are temporary dwellings, and usually constructed at a distance from home. This also indicates the profession of a skin hunter, as the permanent lodges, indicated as winter houses, i. e., with round or dome-like roof, are located near the seashore, and summer houses are only needed when at some distance from home, where a considerable length of time is spent in hunting.

The accompanying illustration, fig. 148, is of a similar nature, and is erected to the memory of a fisherman.



Fig. 148.
INSCRIPTION FROM GRAVE POST.

At *a* is represented the baidarka, containing the owner and a companion, probably denoting the friend of him to whose memory the tablet was erected. No. *b* denotes the bow used in shooting seal and other small marine animals.

No. *c* is a seal, the chief object of pursuit of the deceased, while *d* indicates a whale, an animal also hunted by him.

In the illustration in fig. 149 is a drawing of a village and burial ground, drawn by a native in imitation of the original seen by him among the natives of the southern mainland—the Aigaluxamut. Carvings are generally on walrus ivory, and often on wooden slats. In No. 7 is a representation of the grave post, in position, bearing an inscription similar in general character to those in the last two preceding figures.

The interpretation of the characters is as follows:

Nos. 1, 2, 3, and 4 represent various styles of habitations composing the village. No. 5 is an elevated structure used for storing food. No. 6 is a box with wrappings, containing the corpse of a child. Scaffold burial is frequent among some of the natives. The small lines, with ball attached, are ornamental appendages, consisting of strips of cloth or skin, with charms, or sometimes tassels. No. 7 is the grave post, bearing rude illustrations of the weapons and utensils used by the deceased



Fig. 149.
VILLAGE AND BURIAL GROUNDS.

during life. No. 8 is a grave scaffold, containing the body of an adult. Besides the ornamental appendages, as in No. 6 preceding, there is a "shaman stick" erected over the box containing the corpse, as a mark of good wishes.

CONVENTIONALIZING.

Some examples of decoration are presented herewith, in which there often appears to be solely an attempt at ornamenting the otherwise plain surface of ivory. In others there are evidences of an advance in the graphic representation of objects, in that the originals are no

longer accurately or entirely portrayed, as through an apparent process of synecdoche conventions are attained, which are thus employed for ornamentation, while the original import of the objects themselves seems to have been lost sight of, in so far as their use for historic records are intended. Some miscellaneous examples will suffice to illustrate these remarks.[1]

Plate 40, Figs. 5, 6, and 7 are interesting examples of conventionalizing, and indicate a long stride toward the employment of certain forms for decorative purposes or for the ornamentation of spaces upon ivory rods or bows that might not otherwise be apt to be filled with records of exploits or ceremonials.

The row of thirteen figures in plate 40, fig. 5, are the rear portions of whales, the attitude sometimes taken by them in plunging, when the tail emerges from the water to an unusual distance.

The row of fourteen T-shaped characters, fig. 6, are conventionalized forms to denote the whale, the tail only being drawn to indicate the entire animal. Similar figures are frequently tattooed upon the body to denote a successful whaler. Instances are referred to under the caption Tattooing, p. 781. In the row marked fig. 7 are shown fifteen swimming seals, the arrangement being decorative, though, in accordance



Fig. 150.

FIGURES OF SWIMMING SEALS.

with a common custom, they may also have been intended to denote many seals captured, an indefinite number of objects often signifying many, and more than the actual number indicated, which may be limited for want of room.

Other instances of conventional characters of well-known objects are presented elsewhere.

The regularity with which the seals are portrayed in fig. 150 is another illustration of recording the successful hunt for these animals, as well as an attempt at utilizing these figures for decorative purposes.

Other illustrations are given herewith, in which certain animal forms have become so conventionalized as to be almost unrecognizable, and in this shape these forms are used secondarily, and perhaps even primarily, as decorations, the designs being artistic, as well as of historic interest.

[1]Since this paper was prepared for publication there has been issued by Mr. Hjalmar Stolpe, of Stockholm, an elegant folio publication on ornamentation, entitled "Studier i Amerikansk Ornamentik E Bidrag til ornamentens biologi," pp. 42, figures 137, plates XX.

Eskimo workmanship bearing decorations occur on figures on pages 10–21. A boat paddle, fig. 45, showing both sides, bears a painted face on one surface and a conventionalized form upon the reverse. This specimen is from Port Clarence, and from the fact of its being in color and on wood, is of interest.

Tattooing, showing various conventionalized forms, occur in figure 47 ["Central Eskimo,"] and figure 48 ["from St. Lawrence Island"].

Plate 22, fig. 4, represents a drill bow from Point Barrow. There are two horizontal median lines, three-sixteenths of an inch apart, extending from end to end, from which extend toward the outer sides short, straight incisions, opposite to each of which are the conventional whale tails. This appears to be strictly decorative, the original import as a hunting record having apparently been lost sight of in the attempt at ornamentation.

Plate 22, fig. 3, represents another specimen of like character from the same locality as the preceding. It measures 16 inches in length along the dorsum. Apart from the two perforations which exist at either end of the bow, there are larger holes made for the insertion of turquoise or blue glass beads. On the under surface are represented skins of a number of animals. The ten narrow hides at the left are otter skins. The succeeding five oblong figures with interior cross hatchings are probably bear hides. The remaining figures to the right, ten in number, represent the skins of the deer. A very decided attempt is shown in this illustration at ornamental decoration as well as preserving a hunting record, as the figures are intended to be represented as nearly alike as possible, the skin of each species of animal being almost exactly like others of its species.



Fig. 151.
HABITATION.

One of the drill bows bears a series of illustrations of habitations, various forms being indicated, so as to readily connect the extremes. The normal form is shown in fig. 151, while the more conventionalized outline, which would, if alone, be difficult of specific identification, is shown in fig. 152.

Plate 40, fig. 7, represents a series of seals, the object of which is rather in the order of a decoration than as a hunting record. The carving is deep, and characteristic of the work of the natives from whom it was obtained at Cape Nome. A like form of representing seals is shown elsewhere.



Fig. 152.
HABITATION.

The various panels in plate 60, fig. 2, contain seals at either end, as Nos. 1 and 11, while the bars of vertical lines separate the intervening portion of the ivory rod into other panels, containing single figures of trees, in regular order and rather conventional, and in this state resulting, in reality, in merely a subject of no history, but of decorative or ornamental import.

At No. 11 a new record was begun; a man is seated, and is apparently preparing some article of diet.

Plate 63, fig 4, represents a drill bow from Kotzebue Sound. The specimen measures 18½ inches in length, and is decorated upon the side shown in the illustration by two rows of seals equidistant from one another and so arranged as to represent a method of ornamentation rather than a historical record. The great number of seals may

indicate, as in other records, that the hunter was a very successful seal hunter. Upon the opposite or convex side is a similar portrayal of animal forms, though in this instance only one continuous row of spouting whales occupies the base line, while along the upper line but four of these animals have been drawn, the remaining eight spaces being blank. One edge of this bow is very crudely but deeply incised with strange looking figures representing human beings with alligator heads, armed with mandibles similar to those of huge birds. Several mammalian forms are also represented, one or two being of mythic import. Several kaiaks are also shown, the occupants being engaged in walrus and seal hunting.

Plate 21, fig. 1, is the back of the bow drill represented in plate 3, fig. 1. Considerable interest is attached to this specimen from the fact of the pronounced median lines extending from end to end, the various objects between these and the outer margin being so arranged as to form a very symmetrical and decorative figure. This approaches very nearly one variety of decoration practiced by the Papuans, and referred to by Mr. Alfred C. Haddon.[1]

The specimen is inverted and the interpretation begins at the first figure at the right, which represents a man in a kaiak following four seals. The two figures extending above and below the median line are bear skins. The two elongated figures at the narrow portion of the bow are otter skins. These are succeeded at the next widening of the bow by the representation of another bear skin, and so on alternately to the extreme right, in addition to the last otter skins there being still two added because of the narrowness of that portion of the bow. The space beyond the perforation in the bow at the extreme right is ornamented also.

Plate 24, figs. 5 and 6, represents two ivory bodkins, both from Norton Sound, where they were obtained from Mr. E. W. Nelson. They are each about 10½ inches in length. The specimen shown in fig. 5 is sharply pointed at either end and has three decorated sides. On the plate the illustration is inverted so that the triangles with projecting lines which represent summer habitations are misleading. In this instance the figure of the summer habitation has been adopted as a means of decoration only and has no special import. Upon the next side, the edge of which is partly visible, are the figures of eight walruses, also placed upon the utensil simply as a means of decoration. Upon each of the three sides appears a deeply creased base line, and at intervals of about one inch are oblique lines one-eighth of an inch in length placed almost together, closely resembling one of the forms utilized to denote or indicate the "Finback" whale. The signification of these characters, however, can not be determined. They are believed to represent decorative marks only.

Plate 24, fig. 6, represents a bodkin, only one end of which is sharp-

[1] Evolution in Art, before quoted.

ened, the other end terminating in a seal head. The four sides of the specimen are decorated, the first, shown in the illustration, bearing six figures composed of the rear halves of whales joined together so as to present flukes symmetrically at either end. On the second side are outlines of seven triangular summer habitations, on the right-hand slope of which are two projecting lines, similar almost to the lines in the preceding figure representing summer habitations. On the third side are engraved figures of seven wolves, while upon the fourth side is a single horizontal line with other oblique lines extending therefrom at intervals of about an inch, similar to the groups of threes in the preceding figure.

Plate 21, fig. 5, represents a drill bow from Kotzebue Sound, measuring 17⅜ inches in length. It is made of yellowish and old looking ivory, the dorsum being round while the under surface has two divided faces. The animals represented upon these are wolves, and are evidently arranged in such manner as to present a pictorial result rather than a hunting record. It is possible that the hunter may have been a wolf hunter and intended in this manner to illustrate his great success, as a great number frequently indicates an indefinite number—that is, a larger number gathered during a lifetime than could conveniently be



FIG. 153.

CONVENTIONAL BEARSKINS.

portrayed on so small a surface. A similar idea obtains in gesture language, in which the native will pass his hands upward and outward as if outlining a heap of some soft material, this gesture signifying large or many; an indefinite number signifying a great many, in contradistinction to a limited number which would be indicated by gestures of an entirely different form.

The specimen shown in plate 37, fig. 6, is part of a drill bow which is nearly 25 inches in length. Upon one surface the utensil is decorated with figures of seventeen reindeer and nine bear skins, rather decorative than as a hunting record, while upon that side visible in the illustration thirty-seven skins of the seal are drawn, the interior of these objects being decorated with short lines extending from the outer line inward toward the middle of the body, while the median line extending through the middle of the hide is similarly etched toward the outer side, leaving the two white spaces as a series of zigzags.

Plate 59, fig. 1, represents a drill bow from Nubriakh, collected by Mr. E. W. Nelson. The characters represent bearskins, and are placed almost at equal distances from one another across the entire length of the specimen, to represent ornamentation rather than a record of exploits.



PETROGLYPHS AT BOHUSLÄN, SWEDEN.



PETROGLYPHS AT BOHUSLÄN, SWEDEN.

EXPLANATION OF PLATE 77.

Fig. 1. Simple uncleated circle, found exceedingly common on ivory utensils and ornaments.

Figs. 2, 3, 4, 7, and 10. Represent various forms of concentric circles, usual as ornamental or decorative. Some of these are drawn to denote nests of Kantags or buckets.

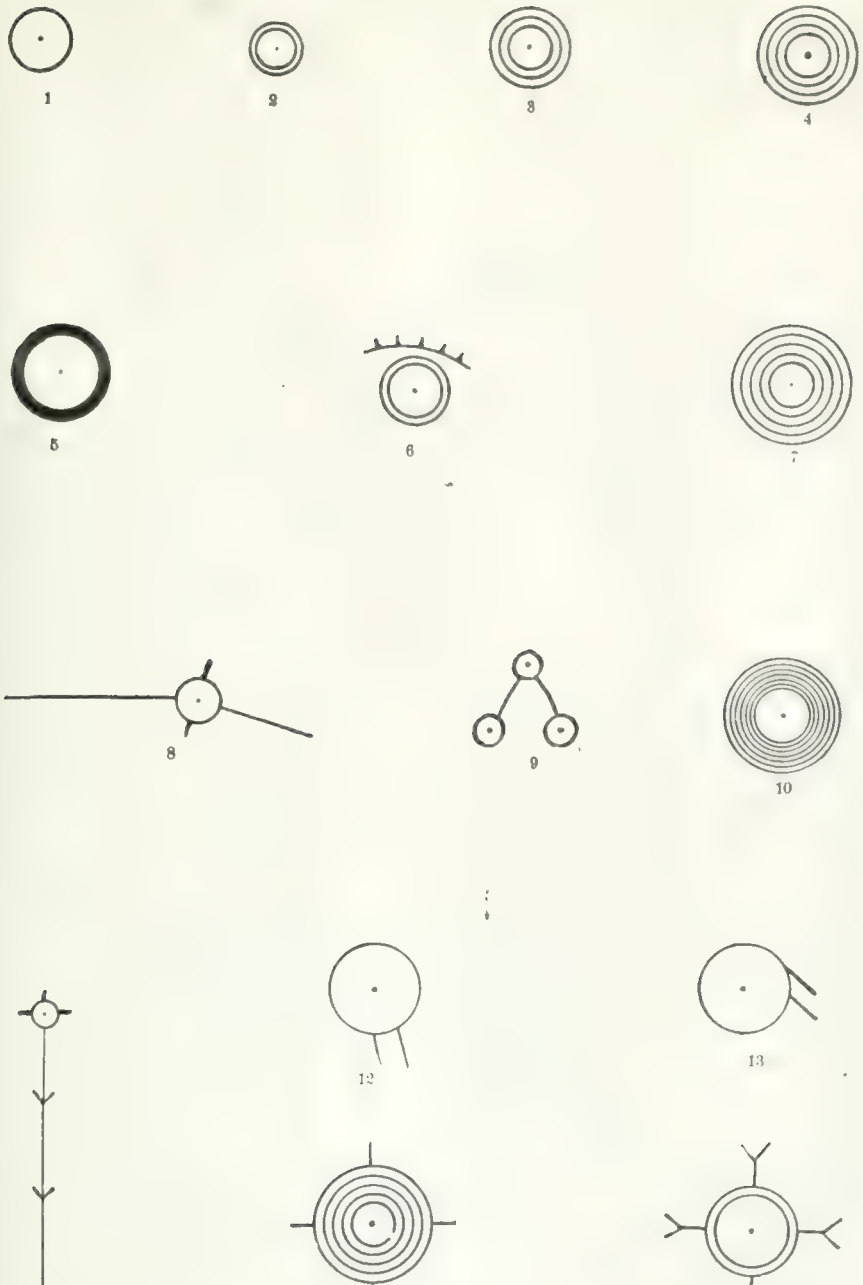
Fig. 5. Not common, but evidently made with auger bit.

Figs. 6, 8, 12, and 13. These occur on various animal effigies, and are made to denote the eyes.

Fig. 9. This is a variant, and occurs on a Thlinket specimen, apparently in imitation of Eskimo patterns.

Fig. 11. Cranberry stalk and blossom.

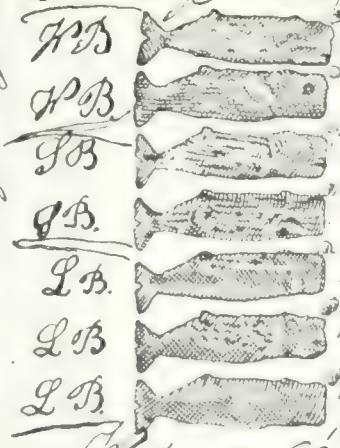
Figs. 14 and 15. Variants of flower of the cranberry.



VARIOUS FORMS OF CONCENTRIC CIRCLES.
From Eskimo specimens.

1813. Bark Peru Cruising

Tuesday Dec. 11th Commences with fresh breezes



16 from NWd Squally & Rainy
Heading SEd Middle part heavy
Rain Latter part Fresh Saw
a School of Sperm Whales
Lowered all three boats Struck
and saved 7 Whales Got
them alongside at 1 PM
and commenced Cutting
Latt 4 21 N Long 60 W

Wednesday Dec. 12th Employed Cutting and
Boiling Light breezes and good
Weather, Latt 4.15 S Long

Thursday Dec. 13th Fresh breezes from NEd Employed
as before

PAGE FROM WHALEMAN'S LOG BOOK.

The nine crude outlines shown in fig. 153 represent that number of bears killed during the lifetime of the owner of the record.

The skins are here suspended from upright poles or posts, and the arrangement of figures has, in other instances, suggested patterns for decorative purposes, as will be observed elsewhere in connection with the subject pertaining thereto.

Figs. 7 and 8 of plate 50 are spear guards usually attached to the upper surface of the canoe so as to form a secure guard upon which the spear is placed. Both of these guards are decorated with concentric rings, both different. Upon the outer line in fig. 7 we perceive diverging short lines terminating in the conventional V-shape or tree figure, while in the other, fig. 8, will be perceived the plain line, which may perhaps refer to the flower symbol noted in fig. 4 of plate 50, and described elsewhere in Mr. Turner's communication. See also plate 75 bearing various forms of native patterns of circles.

Plate 38 represents four ivory bag handles, of which fig. 1 is from Norton Sound. It bears upon the upper side four sets of concentric circles, equidistant from one another, and connected by a median line, above and below which are a pair of radiating diagonal lines apparently denoting the conventional symbol of whale fins. This specimen is similarly marked upon the bottom side and convex edge. With reference to this ornamentation, it is one step beyond that represented in plate 29, fig. 2, which was obtained at St. Michaels, and upon one side of which are shown five sets of concentric circles similarly connected by median lines, but without the lateral radiating lines above noticed.

On plate 38, fig. 3, is shown another bag handle upon which appear seven sets of concentric circles, which, however, are smaller than those shown on the two preceding specimens, plate 38, figs. 1, 2. The design shown in fig. 3 appears to be the primary mode of decoration, as in this there are no connecting lines.

Plate 48 represents a variety of ear pendants from several localities on the west coast of Alaska. The chief feature of these specimens consists in the variety of ornamentation. Simple dots made by drilling, concentric rings, nucleated circles, and in one specimen—fig. 8—a series of serrations attached to two of the circles, comprise the chief features of ornamentation. Fig. 9, however, represents a powder charger consisting of a bell-shaped implement, hollow beneath, with just sufficient cavity to contain one charge of powder. The nucleated circles upon this specimen are among the smallest thus far found in the collections of the National Museum. The arrangement of the circles, also, is artistic and geometrical. Those attached to lines extending from the ring, and apparently suspended therefrom, are, without doubt, flower symbols, as midway between the circle and the upper ring are short lines denoting leaves. This is probably the blossom or fruit of the *cranberry—Vaccinium Vitis-idæa*.

Around the lower border of the utensil is a delicately incised line,

small nucleated circles alternating with vertical lines terminating above in a similar small nucleated circle, from which diverge two short lines, which in turn end in similar rings. The entire outline of the character is that of the simpler form of the tree symbol, though it is believed to denote the fruit of the arctic plant known as the *Vaccinium*. This belief is strengthened by the occurrence of similar characters known to denote this plant, and from which a native carrying a bucket or kantag is shown as in the act of plucking fruit. Compare fig. 70, p. 863.

Above these characters are a series of larger nucleated rings, each with three radiating lines, which are without doubt intended to represent the flowers of this same plant. That the circle with such external ornamental appendages is intended to represent flowers has been explained in Mr. Turner's communication above noted.

The circles portrayed upon this specimen are the most delicate found upon any of the specimens in the National Museum. They are apparently the work of an expert workman, and made with comparatively delicate instruments.

The arrangement of nucleated rings in the form of a triangle and connected by short lines, as in the fruit or plant character above noted, appears upon some Thlinkit bone ornaments shown in plate 9, fig. 3. The transmission of the character, or its suggestion, appears to have come from the Innuit, the southern tribes being known to make this pattern, and the intertribal relations with their eastern and southern neighbors is constant. Being a shaman's ornament among the Thlinkit would suggest the idea that the original signification of the character was unknown to them.

Plate 68, fig. 6, represents a very beautiful rod of ivory from Kotzebue Sound. It is perforated at one end like a bag handle, but sharpened at the other in imitation of a bodkin. Three sides are decorated. The peculiarity of the ornamentation is the insertion in the blank spaces of nucleated rings, their association with these hunting expeditions being very much in imitation of the characters upon the petroglyphs at Bohuslän, in Sweden, and shown in plates 75, 76, and others of like character, showing simple nuclei or pits, as well as nucleated circles attached to lines to represent human beings, exactly like some found in the Shoshonean area of southern Nevada and in the Moki country. The illustration in plate 75 represents at the extreme left four vertical lines, with the zigzag and toothed pattern found upon other objects, which has been designated as the fish trap or seal tooth pattern. The next figure, a crescent, and is a symbolical whale tail. The two bars leaning toward one another, between the whale tail and the walrus, are the rude outlines of the sides of a habitation, the delicate indication of the occupants within being shown. The remaining figures, as will be observed, consist of a kaiak and several whales and walruses. The groups upon the other sides of this rod are very much in imitation of the preceding.

Other interesting and similar illustrations of nucleated rings, in connection with lines to denote human beings, are given by Hans Hildebrand,[1] as also concentric circles and simple nuclei in the same work, page 381. These illustrations are of petroglyphs, and it is evident that in the first named instance the nucleated ring is the head of an oarsman, or perhaps one in authority, as most of the designations for the rowers are alike in length and form, whereas the nucleated figures are always nearer one end of the vessel.

Plate 31, fig. 3, bears upon one side a median incision, upon the upper sides of which are represented a series of conventionalized trees. Upon the reverse are similar tree patterns, but drawn at oblique angles, all leaning toward the left.

In the figure of a ship's anchor chain the links are indicated by drawing the chain zigzag. This is found to occur in only one instance, as shown on plate 40, fig. 2.

Other interesting examples of conventionalizing are shown in the distinction between the portrayal of an ice floe, being a simple curved line as in No. 5 of fig. 112, to denote transparency of substance, while the walrus upon it is incised and the surface blackened.

A similar view of walrus upon rocks is shown in fig. 3 on plate 70, the rocks being outlined somewhat after the order of a floe, though, to show the solid and creased sides of the dark material, the pictograph is incised with the zigzag-like pattern, frequently illustrated in ornamental borders as the fish-trap pattern.

Plate 38, fig. 4, shows a bag handle from Point Hope. The outer edges are scalloped, a small circular excision appearing at the points where these scallops should terminate, each of these excisions being furthermore ornamented by a circular line which surrounds it and from which radiate shorter lines at right angles like the rays of the sun. In the middle of the handle, extending from end to end, is a high, rounded ridge, at each side of which is a median line; on the sides facing the circular excisions are two short lines directed outward, while midway between these points are two shorter lines directed inward toward one another.

Plate 78 represents part of a page from a whaleman's log book, being a journal of the bark *Peri*, Captain E. Russell, who sailed Friday, June 29, 1854, from New Bedford, Mass., for the Indian Ocean, on a sperm-whaling voyage, and returned May 26, 1857. As will be observed by reference to the illustrations, the note under date of Tuesday, December 11, 1855, is as follows:

Commences with fresh breezes from NW. Squally & Rainy heading SW. Middle part heavy Rain. Latter part 7 A M Saw a school of Sperm Whales. Lowered all three boats. Struck and saved 7 Whales, got them alongside at 1 P M and commenced cutting Latt 4° 21 N Long. 60° W

Near the left margin is a vertical column of six whales. At the

[1] "De Lägre Naturfolkens Konst," Stockholm, 1884, pp. 379, 380.

extreme left is an inscription, "16th time of seeing them," denoting that it was the sixteenth time that whales had been sighted. The letters at the tail end of the whales, W B, S B, and L B, denote waist boat, starboard boat, and larboard boat, two whales being captured by the first and second, while three were taken by the last named. At the right of the whales are the numbers of barrels of oil furnished by each, as well as the total, amounting to 146. The method of stamping these outlines is by means of small wooden blocks, which are dipped in ink or other coloring matter, for the reason that the picture of the whale is so readily perceived, obviating the necessity of searching over each page to find any special reference thereto in the manuscript text.

On plate 79 is represented another part of the same log book, and under date of Monday, July 21, 1856, are two references, the first, "29 time of seeing," and another "30th time," referring to the characters of whale's flukes or tails standing upright, and denoting in this connection that the whales were sighted but not captured.

On plate 80 are represented five specimens of Eskimo carvings which are of interest in this connection.

In fig. 1 is shown a very short kantag, or perhaps bag handle, from Sledge Island, the original measuring but about 2½ inches in length, while the perforations along the top ridge separate the pieces of ivory into a series of connected flukes. These are better illustrated on fig. 3, a specimen from Cape Darby, in which the whale tails are almost separated from one another, slightly bent to one side, and very natural in general outline.

In fig. 4 is shown another neat specimen from Sledge Island, while in fig. 2 we have one made of a piece of hollow ivory or bone, in which both ridges are rudely perforated so as to simulate whale tails, as in the preceding illustrations. These four specimens are of interest, from the fact that the flukes are utilized in the decoration or ornamentation of utensils, and probably at the same time denoting that the owner was a whale hunter or had been successful in catching whales. The most interesting specimen in the series, however, is that given in fig. 5, which represents a kantag handle from Point Hope. This specimen, in addition to having the carving of a whale fluke at the upper edge, has neatly engraved upon one side four flukes, flanked on either side by a bowhead whale facing inward. The six figures are arranged artistically and symmetrically, and are almost exactly of the same class of ornamentation as in plate 80.

The question would naturally arise whether the Eskimo had copied such methods of portrayal from the whalers, or the whalers from the Eskimo, or whether the art evolved independently among both.

In consultation with Captain E. P. Herendeen, now of Washington, District of Columbia, a gentleman who has spent many years in the Arctic regions, I am informed by him that he made his first whaling voyage toward Point Barrow in the year 1854. At that time he found

Bark Pioneer.

1856.

Sunday July 20 Comm
from
Middle
the day

Monday July 21st Comm
from S.
At 2
going
all thro
them to
get N.
light bre
to N.
whales
boats
near
to pur

29 time of seeing



30th time



WHALER'S RECORD OF SIGHTING WHALES.

EXPLANATION OF PLATE 80.



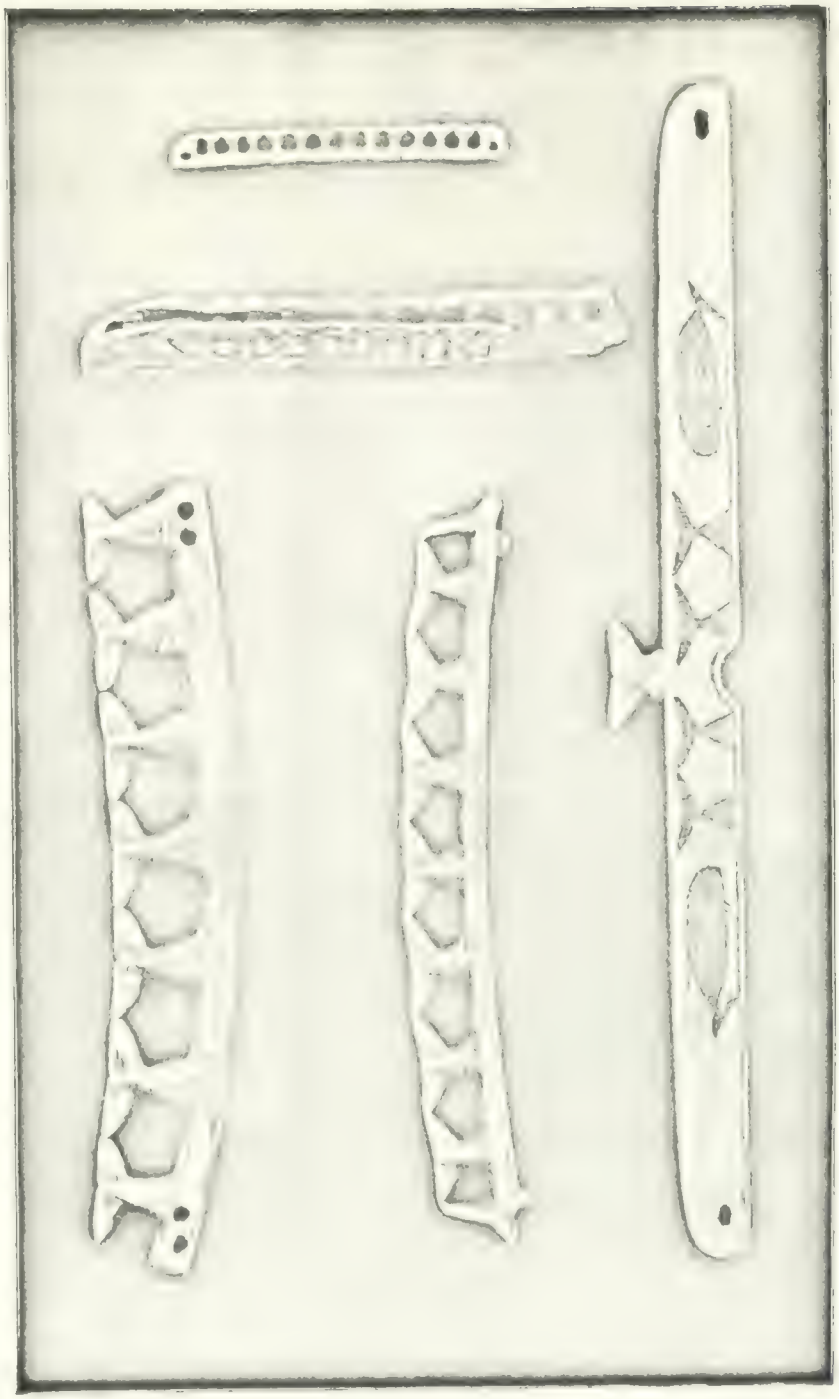
Fig. 1. KANTAG HANDLE.
(Cat. No. 45154, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)

Fig. 2. KANTAG HANDLE.
(Cat. No. 43434, U. S. N. M. St. Michaels. Collected by E. W. Nelson.)

Fig. 3. KANTAG HANDLE.
(Cat. No. 48137, U. S. N. M. Cape Darby. Collected by E. W. Nelson.)

Fig. 4. KANTAG HANDLE.
(Cat. No. 44717, U. S. N. M. Sledge Island. Collected by E. W. Nelson.)

Fig. 5. KANTAG HANDLE.
(Cat. No. 63801, U. S. N. M. Point Hope. Collected by E. W. Nelson.)



ESKIMO CARVINGS OF WHALE TAILS.

in possession of the natives of Point Barrow innumerable specimens of ivory upon which were engraved similar outlines of flukes and whales, both of which had reference to whaling expeditions. Captain Herendeen believes also that the Innuit practiced this method of indicating a whale, by simply portraying its tail, prior to the voyages to that part of the Arctic ocean of the whalers. This is a question that can not now be satisfactorily determined when we come to remember the early arrival in that part of the Arctic regions of the Russians and people of other nationalties, all of whom came for purposes of exploration and probably traffic. The practice of portraying but part of an animal for the whole, known as synecdoche, is very common among some of our native Indian tribes, and it seems to have resulted chiefly, perhaps, as labor saving, and also perhaps because many of the natives may have had occasion to portray certain animals by only the most conspicuous parts to represent the whole, as the observer would readily understand the intention of the artist. Such a process of pictography is particularly prevalent among the Dakota and other of the Plains Indians, especially in connection with the indication of proper names, in which the human head is drawn with a short line, issuing from the mouth and running upward from the head, connecting thereby the object or animal which suggests the name of the person; and in which the line denotes speech, in imitation of the common gesture sign made by passing the finger forward from the mouth, denoting "That is it," instead of simply passing the finger forward to denote speech generically; the latter would be indicated in pictographs only by a short straight line, extending forward and perhaps slightly curved, but not attached to any object.



Fig. 154.
WHALE FLUKES, CAPE NOME.

In comparison with the preceding remarks concerning the conventional fluke, the accompanying designs on fig. 154 are reproduced from a specimen from Cape Nome. The forms are diverse, yet both are accurate in suggesting the original which furnished the concept.

Such T-shaped figures, denoting flukes, are tattooed upon the body to signify that the person so decorated is a successful whaler. Reference to several localities where the natives practice this method of personal adornment, to indicate also individual achievement, will be found under the caption of Tattooing, p. 781.

Plate 14, fig. 3, represents a kantag or bucket handle from Norton Sound. Upon this specimen is engraved a wolf, to the right of which are two grazing reindeer, while the fourth and fifth characters represent hides or skins of bear placed in an upright position so as to almost resemble the tree symbol. To the right of this is a habitation with smoke rising from the smoke hole, and a native approaching the entrance. Along the upper margin of this specimen are two seals at the left, and a whale's fluke, indicating that a whale was seen by the

natives in the boat to the right. This portrayal of the whale's fluke, although utilized as a simple ornament or decorative design in many instances, is here portrayed in imitation of the system adopted by the New England whalers, as represented in plate 80.

Plate 68, fig. 1, is a drill bow from Cape Nome, 15½ inches in length and § of an inch square. Upon the side shown in the illustration are a series of semicircles, with tooth-like attachments on the upper surface, the interior being filled in with vertical lines. Between each of these semicircles is a cross-like figure denoting a bird. The semicircles themselves are conventional characters to represent whales.

At the extreme right is the outline of a reindeer facing toward a native, who has his arms in the attitude as if holding a bow, part of the character being obliterated. Upon the opposite side of this bow are a number of curious looking objects somewhat resembling the general outline of a whale with a peculiar mandible-like attachment extending upward and forward from the head, while to the back are attached short, inclined lines almost resembling harpoons. The fact that these short lines are placed in position by pairs indicates that they denote legs, the mandible being in reality the mouth of the mythic creature which it represents lying upon its back with the feet uppermost. At the extreme right of this record are three small creatures of the same species, though not as carefully represented as the preceding ones.

Upon the top of the bow the left and middle portion is occupied by reindeer, and a habitation, near to which is a meat rack and human figures with arms outstretched. At the right of the record is a very delicately engraved picture of a village with six habitations.

The bottom of the bow is ornamented by a continuous line of nucleated rings of several sizes, the central perforations in nearly every instance being unusually deep, while the rings themselves surrounding the perforations are generally deeper on one side as if the instrument with which they were made had not been held directly at right angles with the surface operated upon.

COMPARISON.

Plate 81 represents a "History of a Year of the Chukch." It is reproduced from a lithographic print by Doctor Carlos Bovallius, and is in imitation of the original, drawn on walrus skin, and it is alleged to have been the work of some Chukche natives. It is not known whether Doctor Bovallius has published a history in detail of this pictographic record, but attention was called to the record by Doctor Walter Hough of the National Museum, who received the above information, in turn, from Doctor Bovallius, to the effect that the record refers to the avocations and hunts of one entire year.

The preceding paragraph was written one year ago and the interpretation given at that time, and in connection therewith, was based upon the application of Eskimo pictographs of known signification, and upon information possessed relative to such interpretation in general.



Having within the past few days had opportunity, and occasion, to further examine the literature bearing upon the Swedish Polar Expeditions, I learn that this plate forms one of the illustrations given by Mr. Hans Hildebrand in his monograph on primitive art, and forming a chapter in one of Baron Nordenskiöld's works.[1] In speaking of the generally intelligible state of the pictographic characters, he remarks as follows:

"Ich will es allerdings nicht auf mich nehmen, von allen diesen Bildern eine befriedigende Erklärung zu geben, die Hauptzüge sind jedoch so deutlich, das sie nicht misverstanden werden Können. Nahe den Contouren der Haut laufen auf beinahe allen seiten breite Linien, welche an mehreren Stellen zu breiten Flecken aufschuellen. Diese Linien stellen den Strand dar, die Flecken sind zuweilen Höhen, zuweilen Zelte, die letzen theils an den regelmässigen Konischen Formen, theils an den über die Zeltspitze hinausgehenden Enden der das Gerippe des Zeltes bildenden Stangen erkennbar—diese Kleinen hervorstehenden Enden finden sich auch auf den modernen Abbildungen der Tchuktschen-Dörfer."

The following interpretation is given as viewed from the Eskimo standpoint, as the entire collection of figures of animals, whales, ships, human beings, and every other character is typically Eskimo, and the system of recording, as well as the type of characters themselves, was undoubtedly obtained from the Eskimo by copying other like records of ivory obtained from the natives of the American coast, or possibly from the Yúit, who are near neighbors of the Chukche, and who are, furthermore, the Asiatic representatives of the Eskimo. Neither is it known that the Chukche were at all proficient, originally, in recording pictorially their records, literature being generally silent on that subject, and nothing appears in the collections of the National Museum that bears any relation to ornamentation of any character whatever and marked as of Chukche origin.

Believing therefore that the record under discussion is Eskimo, the interpretation is given from the standpoint of our knowledge of Indian characters. The presence of the two disks, Nos. 1 and 2, denote the sun, No. 1 being in Indian pictography a *black sun*, or night, while No. 2 represents the summer sun as it usually appears a little above the northern horizon. These two scenes therefore would confirm the statement given by Doctor Bovallius as covering the period of one year. About the outer margin of this record, and marked by indentations and irregularities, appears the shore line, upon the outer margin of which toward the border of the record are various scenes depicted as occurring upon a solid surface, while within the line generally are various scenes, as whale hunting, etc. The outlines of habitations are also scattered at intervals, as in Nos. 3 and 4, apparently in the midst

[1] Studier och Forskningar föranledda af mina resor i höga norden. Stockholm, 1884. Pls. and ill. This work was reprinted in Leipzig, 1885, under the title of "Studien und Forschungen veranlasst durch meine reisen im hohen Norden."

of the water, but this results, no doubt, from the fact that large blank spaces had been left after the aquatic scenes were completed, and the habitations were then placed upon the most available space. In No. 3 will be observed a vertical pole with cords stretched out to various sides of the pole, while beneath are represented four human beings. The import of this is not clear, but in fig. 4 we have the outline of an underground habitation very similar to many of those represented on the ivory rods. Over the entrance is placed a votive offering, shown by a vertical line with a short cross line attached to the top, beneath which is a human being with arms extended from the head as if reaching to something above him. Upon the dome-shaped portion of the habitation are three human beings, one crawling by the side, while two are engaged in peeping down through the smoke hole to see what is going on within. On the inside are three natives, one on the floor, while the second is seated on the bench or projecting boards placed around the interior, which also serve as beds, while the third appears to be hanging by his feet from a horizontal bar. Whether this is simply an acrobatic feat or not, we have no means of determining. At No. 5 is another object in the shape of a parallelogram within which two human-like objects are seated, facing in opposite directions. These characters are very similar to the Shoshonian pictographs as found among the cliff remains of northwestern Arizona. The hands of one of these characters are elevated, with the fingers outspread, as if making gestures, while the other has his hands placed toward the ground, with fingers spread. It is probable that this represents some shamanistic idea.

Among the various representations of umiaks are some very interesting ones, those in Nos. 6, 7, and 8 being particularly well drawn. At No. 9 is one which very much resembles the petroglyphs, or the petrographic representation of boats as found in Sweden, of which an illustration is given in plate 76. A fine illustration of harpooning is shown in No. 10, the floats being attached to the line, while the animal is shown as attempting to escape, at the same time blowing water above his head. A similar exploit is shown in No. 11, the harpoon having been cast and the whale followed by the umiak represented in No. 12. In No. 13 is shown an umiak, from which a harpoon is being thrown at a seal, while the native in the stern is elevating his paddle in imitation of the signal to denote concentration. This is a notice to the accompanying kaiaks that the harpoon has been cast and that the assisting hunters are to surround the animal struck.

In No. 14 we have the interesting illustration of a whale being harpooned, the float appearing behind, while a second harpoon has been thrown into him, the line of which is still attached to an umiak, which in turn is connected by a continuous line to a second umiak, both boat loads of hunters in this wise keeping up with their foray. In No. 15 a whale is likewise shown with two harpoons and floating lines attached.

Upon the opposite side of the illustration is seen a pregnant whale (fig. 16), the body of the larger animal being lifted partly, while within is portrayed a smaller whale with the head directed toward the head of its parent. A little to the left of this are some well-drawn illustrations of sledges, to which three dogs are hitched, No. 17, while around to the left are the outlines of several natives holding their arms aloft as if experiencing surprise or joy at something in which they are interested. At No. 18 is shown an indentation representing a little inlet in which a whaler is shown anchored. Near the vessel are natives in various attitudes, as if engaged in conversation or barter, while above, in No. 19, are four small triangular bodies projecting toward the water, which denote habitations, very much in form like the ordinary Indian tent.

At No. 20 is the outline of a large bear being attacked by two natives, the one in front pretending to strike him with some large object, while the man behind him is in the attitude of using a spear. Quite a settlement is represented at a projecting point of land, No. 21, the lines upon which are continuous dark bodies, both round and triangular, representing habitations of various kinds.

In No. 22 are represented six small scaffolds, and from the opposite side of this point are three others which may represent burial scaffolds, or they may possibly be intended for food storage only. At No. 23 is the shore line, the short projecting lines radiating therefrom apparently denoting sedges or grass, while the lines extending around the village appear to denote a rise in the land corresponding to the contour lines. In No. 24 is shown an individual upon a loft, with arms outstretched, as if making signals. In No. 25 two habitations are shown, with another scaffold denoting the end of the settlement. The inclosure between Nos. 24 and 25, within which are vast numbers of short lines, seems to denote a marsh with sedges, or reeds, or other aquatic plants, while in No. 26 we have a continuous line of blackened spots denoting the contour of a mountain range upon which we find at several points human beings, one with a spear, while another has his arms outstretched as if attracting attention. Beyond this range are indicated various animals, conspicuous amongst them being the deer. This apparently denotes a hunting ground. At No. 27 is another inlet in which are represented three whalers or whaling ships, while upon the shore we find two pairs of human beings in which one person of each pair seems to hand forward some object to the other, who is shown with outstretched arms as if to receive it. About the ships are shown numbers of umiaks loaded with natives who have come to trade. In No. 28 is another indication of a bear hunt, three natives participating in this attack, two armed with bows and arrows, while the third has only a spear. In No. 29 is shown what appears to be a hostile encounter between several natives, and actual hostility is taking place as shown in No. 30, where two are engaged in grappling with one another, while their companions stand by in various attitudes of surprise or alarm.

Along the shore line indicated at No. 31 are numbers of habitations and scaffolds, as observed elsewhere, while at No. 32 are a series of black projections which evidently denote hills, as these are also shown at No. 26. The native shown in No. 33 appears to have shot an arrow into some animal, while the native in front of the latter is in the attitude of thrusting his spear. Absence of horns seems to indicate a doe, or possibly a bear, although the length of the limbs would preclude the latter idea. At No. 34, however, the figure of a bear is drawn more carefully. In No. 35 is shown a herd of reindeer, while in No. 36 is shown another whaling ship, beneath which are four kaiaks loaded with individuals who have come after trade. A curious illustration is that shown in No. 37, in which quite a string of reindeer are attached to sledges. The native in No. 38 is apparently driving back the animals who are heading off in that direction. In No. 39 is the outline of a habitation with the accompanying horizontal rack, from which meat or other food is shown suspended. The characteſ in No. 40 is, without doubt, the outline of a net, and resembles in almost every respect similar ones found in the pictographs made by the natives of the American coast. In No. 41 is a horizontal line with five animal heads protruding. These would seem to denote walruses, but from the fact of the projections above the head they are probably intended for deer who have broken through the ice, or may be swimming, toward which the umiaks are hastening, as shown above. No. 42 represents a number of individuals with arms extended and hands directed toward the ground, which resemble very much some of the characters on the drill bow (plate 68, fig. 3.

Since the above interpretation was dictated, I have had the opportunity to consult Captain E. P. Herendeen, a gentleman thoroughly familiar with the country and the natives of both sides of Bering Strait. Upon submitting to him the chart for his examination as to the geographic location referred to, the following additional information was obtained, as well as his approval in the belief that the coast natives [Eskimo] were more likely the authors of the record than the "Deermen" [Chuckche].

That part of the record marked No. 40 comprises the coast of the Holy Cross Gulf; and extending backward to No. 18, which denotes Plover Bay, are observed whales and a whaling ship, denoting a common occurrence in past years for whalers to enter one of the numerous inlets, seek a good anchorage, and there make the required catches instead of sailing in the open sea. Whalers are said to have been common at almost every favorable point.

The point of land at No. 19 is East Head, and is precipitous, while a small village is located near the entrance, of which my informant could not give me the native name. Opposite the hull of the vessel is a long, narrow black line, which represents a sharp spit of land actually occurring at that point in Plover Bay.

At No. 23 is a point of land which is recognized as Indian Point. The shore has a rocky appearance, and immediately back from the surf line appear some contour lines, upon which are the representation of scaffolds, as before noted, which Captain Herendeen says are caches of the natives, while the houses are scattered along in rows. The irregular area between the village and the ridge of hills at No. 26 is a marsh. The hills are also in actual existence and beyond them is a good hunting ground, as indicated by the artist.

To the right of Indian Point, in the midst of an inlet at No. 43, is Arakan Island, formed like a hump, with a straight line on one side to denote the water line. The line at No. 44 covers an inhabited stretch of land, commonly called the Michigme, and located on a bay of the same name. Several habitations are visible, and a number of human forms are drawn near to them.

At the right-hand end of the Michigme settlement is an inlet showing three whales, near each of which is a pair of human beings, one person in the act of handing to the other some object, the import being trade, the purpose of the visit of the natives.

The lower or opposite shore, marked Nos. 30, 31, 34, and 36, Captain Herendeen is not positive whether it may represent a continuation of the Asiatic shore or St. Lawrence Island, the locality where the Asiatic coast natives obtain oil and various articles with which their country is not well stocked, returning therefor wooden vessels, poles for tents, frames for boats, etc., which are primarily obtained from the Chuckche, as the latter come from the inland regions by means of sledges, as shown at No. 17.

From the general appearance of the drawings, the continuity of shore lines, with the exception of a small and apparently insignificant break at No. 45, would indicate that the Asiatic side alone was intended to be shown, and not the opposite American shore. The statement, too, that the record is a "year's record" should also be taken into consideration.

At No. 46 is an indentation probably intended to represent St. Lawrence Bay. There is quite a herd of seals indicated, clearly denoting the presence there in great numbers of that animal. Habitations of various kinds line the shore line, to indicate a settlement of natives. At No. 47 is shown a harpooned walrus, followed by a native in a kaiak, who has his arm raised as if about to cast a second weapon. No. 48 has already been alluded to as a marsh, the short lines being indicative of the sedges growing at that locality. No. 49 is a skin tent, near which is lying upon the ground what appears to be intended for a sledge. The latter is in imitation of the Chuckche type, as may be observed by comparing those at the opposite side of the chart in connection with the sledges to which reindeer are hitched, near No. 39.

The general resemblance of these teams of the Chukche is, in general, very much like those of the Samoyeds, and I can not refrain from

introducing herewith as plate 82[1] an illustration published by Mr. Jackson in his work on "The Great Frozen Land," which illustration is a reproduction from a photograph. The middle, covered sledge, is one used by women, the remaining one being for goods and men.

No. 50 denotes a village, the tent poles protruding from the tops of the ledges. Along the shore are more habitations, and two umiaks filled with hunters are shown in the water. At No. 51 are two natives making an attack upon a bear. One of the hunters has a spear, while the other is armed with bow and arrow. A third hunter, a little to the right, has shot his arrow into the animal, and has extended his open hand outward, to indicate to the others that he has "cast a weapon," in imitation of the custom of whalers when they elevate the paddle, or spread hands, to inform their companions of their action and to request concentration of boats to secure the game.

At No. 52 is a group of six men. Two are going forward with a spear, while the two in the middle are making gestures. The pair at the right are in close embrace, apparently in combat. No. 53 illustrates the method of spearing seal through the ice, very similar to that shown at No. 31. The small ring, however, denotes the breathing hole made by the seal, this being absent in the latter instance. Nos. 54, 55, and 56 are obscene figures, and not worthy of reproduction.

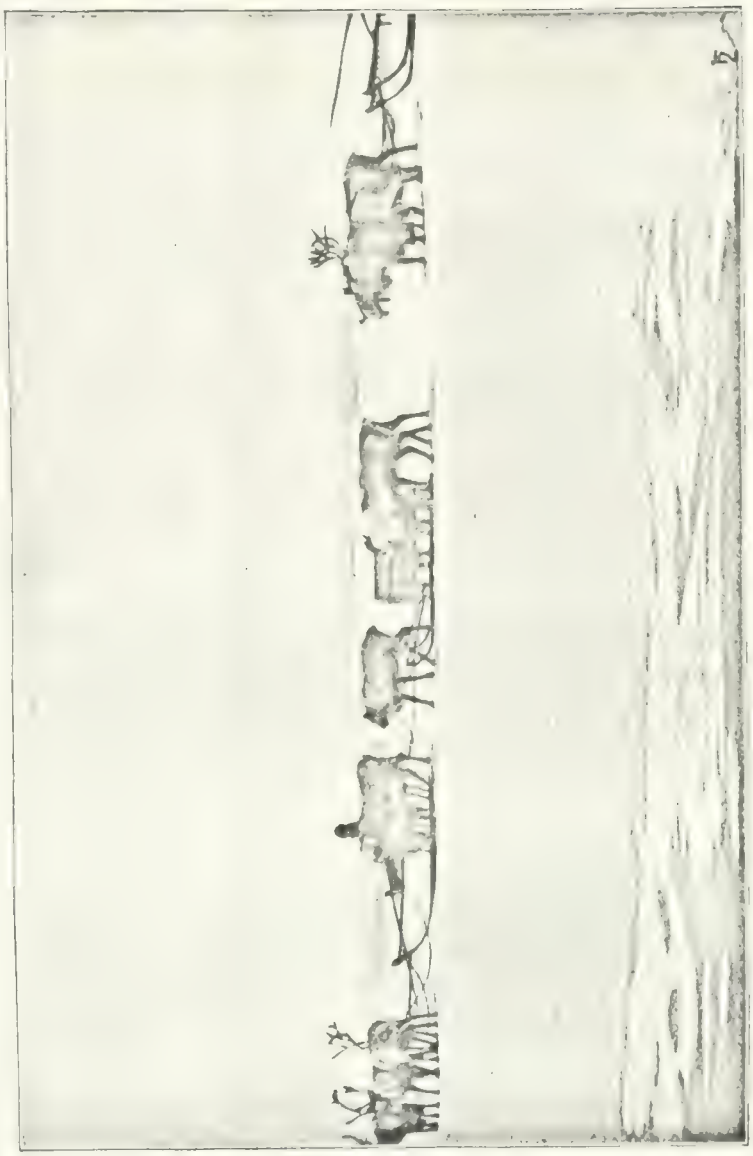
Various illustrations of Chuckche art are given by Mr. Hans Hildebrand,[2] and in every instance the products resemble the figures on plate 10, and appear as if they had been drawn with a pencil or sharply-pointed brush. The general type of the portrayals are like those of the Eskimo, clearly showing artistic relationship. In the same connection are shown, also, a series of line drawings, reproductions from drill-bows from Port Clarence, some of them being so like those in the collection of the National Museum as to lead me to bel eve that the originals used by Mr. Hildebrand and by me were the same, or that they were made from copies or duplicates by the same Alaskan artist.

On plate 9 are represented six pieces of decorated bone slabs obtained from the southeastern neighbors of the Eskimo—the Thlinkit Indians. The specimens are selected at random from a necklace bearing a total of fifteen. They were the property of a shaman and formed part of his decorations, but whether they were believed to possess mystic or other virtue is not known.

The interest connected with this lot consists in the decorations upon the pieces of smooth bone. The ornamentation is typical of the Eskimo, as may be perceived by reference to numerous illustrations submitted herewith, and was apparently adopted in imitation of similar designs observed in the possession of Eskimo shamans, or such as may have been introduced through the medium of intertribal traffic. The trade route along the northwest coast has before been referred to as one of the most interesting culture routes of that part of the Ameri-

[1] London: [date ?] plate opp. p. 68.

[2] De Lägre Naturfolkens Konst. Stockholm, 1884.



SAMOYED REINDEER TEAMS.

can continent, but with an almost total absence of evidence to the contrary, the direction of the movement of culture and art designs has been in the opposite direction to that illustrated by the present instance. In other words, the Haida and other influences have been pushing steadily northward and westward amongst and beyond the territory of the Thlinkit, and not from the latter areas eastward and southward.

By reference to the illustrations in the plate, it will be observed that the concentric circles, apparently made in the same manner on all the pieces where present, were made by pieces of metal filed to a V-shaped form, one apex or side being left a little longer, perhaps, than the other, so as to more easily serve as the center pivot. The rings are of different width from the outer, showing that they were not made by an instrument with movable arms, in imitation of a pair of dividers. Furthermore, the diameters are not exactly of the regulation size, as would be found in a common manufactured bit, but the outer rings are less than one-fourth of an inch in diameter, being almost seven-thirty-seconds—an unusual size. The inner circles are scant three-sixteenths of an inch in diameter, clearly indicating that the tools were of aboriginal workmanship, though made of imported metals as well as imported instruments.

The arrangement of circles as in fig. 3, plate 9, is also in imitation of Aleutian and other Eskimo patterns, and foreign to the ornamentation of the Thlinkit, as far, at least, as illustrated in the products of that tribe now in the collection of the National Museum. Reference has already been made to a like arrangement of circles on some of the ancient British coins, referred to at page 819, and a closely resembling example of which is shown in plate 47, fig. 1.

The strong resemblance between some of the carvings of the Eskimo and those of the cave dwellers of the Dordogne has been referred to by various authors.

Mr. Edward T. Stevens remarks that "It is singular that, except at La Madelaine, none of the bones appear to have been gnawed by beasts of prey." The cave people are believed, therefore, to have occupied the caves permanently or to have closed them when deserted, and to have excluded carnivorous animals which might otherwise have been attracted by the accumulation of bones.

Doctor A. B. Meyer, director of the Royal Zoological and Anthropological Museum in Dresden, has recently published some magnificent folio volumes on the ethnographic materials from various localities—from the Philippines, New Guinea, etc.—and in Volume IX of the series presents some illustrations of combs bearing decorations, which would at a cursory glance suggest the type from which the Eskimo ornamentation was obtained for the comb shown in plate 32, fig. 4. The several specimens of workmanship of the Nigritos above mentioned may be found by reference to Doctor Meyer's plate 2, figs. 1, 2, and 3.

Plate 65, fig. 4, is a thread case of reindeer horn, marked as from "Ooglaamie." This is interesting, because of the peculiar portraiture of reindeer horns, in which these projections are exceedingly tall and straight, as compared with the art work of other localities. The most interesting figure connected with this is the representation of a kaiak, immediately above which are two nucleated rings, exactly like those shown in the petroglyphs from Sweden.

Plate 7, fig. 1, represents an arrow straightener made of reindeer antler. The specimen measures 6¾ inches in length, and is surmounted by the outlines of a reindeer's head, the small knobs only indicating the rudimentary horns. The eyes are made by the insertion in small perforations of three glass beads. The nostrils and mouth, as well as the ears and the external meatus, are all very true to nature.

An incised line extends along the spine from the occiput to within an inch of the rear end, and two incised lines, one on either side of the neck, run parallel therewith.

This specimen is very interesting as comparing very favorably with some of the specimens figured by Messrs. Lartet and Christy,[1] which are found in the cases of Dordogne.

An exceedingly interesting arrow straightener of walrus ivory is shown on the same plate, fig. 2. The reindeer, which is portrayed in outline, has the head thrown forward as in rapid running. The legs are gathered up close to the body; the ears are indicated by mere perforations, while the eyes were originally inlaid, one still retaining a plug of dark wood. The perforation in the body—for the insertion of spear or arrow points—was made by sawing the spaces between the perforations made by drilling, the saw marks yet remaining where the angles were formed.

The perforations in the arrow straighteners in the Museum collection are all at an angle of about 20° to 40°, so as to permit the inserted piece to extend backward toward the longest projection of the straightener, in order that a sort of V shape is formed, the two ends being thus more readily grasped by the one hand, so as to produce stronger and more steady pressure than if both hands were used.

A number of deeply incised and uncolored figures of reindeer are engraved over the body of the utensil, and but a single character differing therefrom appears to be that of a shaman, shown near the point of the perforation, his two arms being extended and his head decorated with horn-like projections, as if the result of a ceremonial mask.

The third specimen (fig. 3 on plate 7) also represents an arrow straightener, the head end of which ends in the outline of the fore quarters of a bear. The eyes are made of two blue beads inserted in perforations, and the teeth are indicated by incisions with the graver. The fore legs are made to extend downward over the front of the per-

[1] Reliquiae Aquitanicæ London, 1875, Pl. B. XIX, XX.

foration so as to give additional strength to that part. The specimen is slightly decorated on one side with the outline of a human being with arms extended, a line extending from the head along the middle toward the perforation; on one side is the drawing of a wolf, while beneath it is a flintlock gun. Upon the other side is the representation of a reindeer, with two smaller animal forms incised, while beneath the former is the rude portrayal of another flintlock gun, the flint being indicated by an unusually strong line projecting from the raised hammer.

The general outline of these animal forms appears at a first and careless glance to be very like the examples figured by Messrs. Lartet and Christy, but upon close inspection the difference between the several types becomes more and more apparent. As before intimated, if the cave dwellers of France were in such an intellectual status as is usually claimed, the artistic work as evidenced in their etchings on horn appears vastly superior to that of many peoples far in advance in civilization.

Further discussion on this subject is not deemed appropriate in this connection, but will be renewed in a paper the purport of which is intended to be an examination of the relative merits of the art work of primitive peoples.

Similarities of design with divers significations, and dissimilar patterns with like purport, occur in all parts of the habitable globe, and, as before intimated, the concept giving origin to such designs should in all instances, where practicable, be sought for among the peoples who are the authors thereof. In like manner, it is of the highest importance to obtain the native artists' interpretation of any obscure or conventionalized characters, as such are often apparently intelligible from their resemblance to characters of known signification, whereas the result of inquiry may sometimes be rather startling, if not open to the suspicion that the uncultured artist is himself unconsciously in error.

APPENDIX.

The following list of gesture signs were collected during the summer of 1882 in San Francisco, California, where an intelligent Kadiak half-caste was met with under circumstances which enabled him to devote his exclusive attention to the subject of the transmission of thought without the use of oral speech. This person was the offspring of a Russian father and a Kadiak mother, and during his youth had almost constantly accompanied his father in trading and collecting peltries for the Russian Fur Company. After the transfer to the United States of Alaska, this man, Vladimir Naomoff, continued in the service of the Alaska Commercial Company, of San Francisco, California, visiting the various settlements of natives on the mainland and inland to the Copper River Indians [Kutchin or Kenai], a tribe of the Athabaskan linguistic family. In this manner Naomoff became thoroughly familiar not only with Russian, English, and the Kadiak dialect, but with half

a dozen or more other native dialects, which enabled him to observe and acquire the various resources which many of the natives, meeting as strangers, would be compelled to employ to enable them to communicate in ordinary contact, and also in the representation of graphic methods whereby to communicate to owners of houses of a visit and the import thereof.

The collection of gestures was made, together with many others, from most of the Indian tribes west of the Mississippi River, and deposited in the library of the Bureau of Ethnology, through the courtesy of which I am enabled to give them publicity in this connection.

GESTURE SIGNS OF ESKIMO.

BAD.

Place the flat hands, with the palms forward, in front of their respective shoulders, the fingers extended and naturally separated, then throw them forward and backward alternately, the face at the same time assuming an expression of disgust.

BEAVER.

Make the sign for tree; then snap the teeth and hook the curved index horizontally inward toward the face from a position in front and to the right of it; then extend the left fist edgewise to the front and left of the body, the right extended toward the same direction though on a higher plane; then pull them simultaneously back toward the right, in a jerky or tugging manner. Conception: *Tree, cutting down with the teeth, and dragging away log.*

BEAVER (abbreviated sign).

Indicate the canines by sticking the forefingers upward and forward from the corners of the mouth; then snap the teeth several times and hook the curved index horizontally toward the mouth from a position to the front and right of it.

BEAR, BLACK.

Pass the flat hands alternately upward and forward from the face, pulling them back again more flexed, as in imitation of his climbing a tree.

BIG. (Broad.)

Pass both flat hands, palms downward, from a position before the body outward toward their respective sides.

BOAT.

Place the clinched hands at the left side of the body, the right higher than the left, and pass both simultaneously horizontally backwards toward the left hip. Conception: *Using the paddle.*

BOIL, TO.

Snap the fingers upward from the inner surface of the tips of the thumb; at the same time move them upward and downward in small circles about 2 feet from the ground. Conception: *The bubbling of boiling water.*

BORN, TO BE.

Place the extended fore and second fingers (or all the fingers) against either side of the epigastrium and throw them simultaneously downward along the body, outward and forward in a curve. Conception: *Pelvic curve followed by head of child in birth.*

BROTHER.

Make the sign for mustache in imitation of pulling the hair upon the upper lip forward, followed by the sign for man by lifting the hand, and then the sign for mine, clinching the fist and thrusting it forcibly forward edgewise toward the ground toward the lower part of the breast.

BURY, To. (Buried.)

This sign made to follow that for man, or a man dead or killed.

Place both hands nearly at arm's length before the body, palms down, about 8 or 10 inches apart, and 18 inches or 2 feet from the ground; then draw them backward simultaneously toward the body, slowly.

CHIEF, HEAD.

Make the sign for man (mustache); then place the flat right hand before the face, at some distance, fingers extended and separated and pointing upward, and touch the tip of the middle finger with the extended forefinger of the left hand. Conception: *The most elevated of the whole number.*

CHIEF'S WIFE, HEAD.

Make the sign for *chief, head* (mountain natives); then place the flat hand at the height of the face, palm inward, fingers extended and separated; then flex the thumb at the first joint and lay the tip of the index upon it just back of the thumb nail; conclude by passing the right hand downward over the right side of the head and outward toward the shoulder—*hair, woman.*

COLD.

Imitate shivering as from cold. Sometimes the clinched hands are brought forward in front of the breast, as is involuntarily done when suffering from the cold.

COME, To. (Infin.) CAME.

Bring the hand from one side of the body inward toward the breast, the fingers pointing upward and nearly collected to a point.

CREEK.

With the palms facing and about 10 or 12 inches apart, pass them edgewise forward to arm's length, then add the sign for *drink*. Course and width of water.

DAUGHTER.

Make the sign for woman (hair); designate *height*, and *mine*.

DAY.

Throw the head slightly upward with the eyebrows elevated, and throw the hands upward and outward with the fingers extended and separated, palms inward and slightly to the front.

DAY.

Hands passed upward and outward toward their respective side in a curve from near the front of the breast, and terminating at a point as high as the top of the head, but on either side of it. The eyes follow an upward direction at the same time.

DAY.

Same sign as for *sun*.

DEAD.

Cross the forearms upon the breast and throw the head back, with the eyes closed.

This gesture is also made by the natives of the interior, who are unacquainted with the customs or religion of the Russians.

DEER.—BUCK.

Place the hands with the fingers and thumbs extended and separated, palms forward, above and on either side of the head. Conception: *Horns.*

DEER.—DOE.

With the hands scoop-shaped, fingers spread and extended, imitating running, with the hands thrown downward, the movement being alternately with right and left.

DEITY. (Great Spirit.)

The same sign as given by the coast Indians by pointing upward toward the zenith, and then imitate the cross by passing the fingers of the right hand from the forehead to the breast, and then from the left shoulder to the right, instead of the right to the left.

DOCTOR. (Physician.)

Make the sign for *man;* indicate the outlines of a square by passing the right hand edgewise to the right, the left from the right side toward the left, though leaving the lines about a foot apart; then pass both hands simultaneously from the front line backward toward the body—outlines of a box; make a dotting motion downward with the bent fingers, pretend to grind something in a small vessel, then point to the south—settlements of the States—and conclude by making the sign for drink. Conception: *Man, box, contents, grinding in mortar, location, drink.*

DOG.

Represented by imitating the sound of barking—wŭ'-wŭ'.

DOG SLEDGE, TRAVELING BY.

Make the sign for *dog* by indicating the cries, both hands with fingers extended being held to the sides of the head; at the same time lean the body forward, bend the arms at the elbows, and throw the flat right hand horizontally forward as high as the shoulder, and when nearly at arm's length pass it downward in a curve, and straight backward on a level with the hip and to that point. As the right hand is moved back, the left is thrown similarly forward. Both are repeatedly moved to represent crawling over the surface.

DRIVE FORWARD, URGE, TO.

Close the hands naturally, place them before the lower part of the breast, then throw them simultaneously downward and forward and extend the fingers as the motion progresses.

EAT, TO.

Approximate the tips of the fingers and thumb to a point, place them near the mouth, and move backward and forward from the mouth quickly, but only for a short distance.

FATHER.

Place both hands (slightly curved, with the tips of the fingers somewhat approximated toward a point) a short distance from the cheeks, pointing downward toward the chin and nearly touching palms toward the *point* of the chin.

FATHER.

Make the preceding sign, to which add those for *man*—by elevating the hand—and for *mine*.

FATHER'S BROTHER.

Make the sign for *father*, i. e., by indicating the beard and making the sign for gesture, after which height or tallness is indicated by placing the hand forward in front of the body, when the right hand is placed vertically in front or to the side of the head to indicate man; this gesture is then followed by mustache. Conception: *The beard and mustache upon the tall man belonging to the speaker.*

FATHER'S SISTER.

Make the sign for father, as before, and *his*, by throwing the thumb only extended outward a little to the right; then for young woman, which is indicated by stroking the side of the head, downward, as to denote long hair, and then pinching the lobe of the ear to designate earrings.

FIGHT, TO.

Close the hands, leaving the extended thumbs lying along over the flex forefingers; then pass both hands in irregular movements, forward, downward, and backward again, quickly, as if boxing.

FISH.

Hold the right hand edgewise before the right side of the waist, fingers directed to the front, then pass it forward and a little toward the left, moving it in a waving manner from side to side.

GIVE, TO ANOTHER.

Place the thumb upon the inner surface of the index, fingers extended and joined, palm up, and pass the hand outward to one side, as if giving a small object held by the thumb and index.

GIVE, TO ME.

Place the hand with the palm up, fingers extended and joined, about 2 feet before the body; then, as it is brought in toward the breast, curve the hand slightly, placing the thumb against the index as if grasping some object which had been given.

GIVE, TO, TO ANOTHER. (Granting a request.)

Place the tips of the fingers against the edge of the thumb, thus closing the hand naturally, and pass it from near the side of the breast in a curve outward and downward toward the ground, as if laying a gift at the feet of the supplicant.

GOOD.

Place the hands with the palm downward before their respective sides of the breast and as high as the shoulders, the fingers naturally separated, extended, and slightly curved; then pass them rapidly and alternately toward the top of the breast, at the same time assuming a pleased countenance with the brows arched.

GRASS.

Place the backs of the hands near the earth, the fingers separated and curved upward; then, as the hands are thrust up and down quickly, they also move from side to side or place to place. Conceptions: *Sprouting, short vegetation, and the area thus covered.*

GRAVE, CHILD'S.

(1) Place the flat hands edgewise before the body as high as the shoulders, then pass them downward toward the ground for a distance of about 15 inches; then place the right hand edgewise at arm's length before the breast, pointing toward the left, the left between it and the breast, edgewise and pointing toward the right, then pass both downward as far as before; (2) then hold the separated and extended index and second fingers of the right hand before the face and push it upward a short distance; (3) make the sign for *write;* (4) place the flat hand or hands palm down, pointing forward about 18 inches from the ground; then conclude with the (5) sign for *dead.*

HABITATION. (Medicine Lodge. Kacígi.)

Indicate a large horizontal square (exaggerated sign for *box*); then make the sign for roof (high) by passing the flat hands, from a point above and in front of the head, outward toward their respective sides and as far down as the waist, finger tips pointing to place of starting; make the sign for *man* (mustache), indicate one by elevating the index, then raise the second finger—*two;* then the third—*three;* and finally the little one—*four;* then make the sign for *entering* a house by passing the right flat hand, pointing, forward and slightly downward under the left flat palm, forward nearly to arm's length; then make the sign for *man* (mustache), and that for *bow*, indicate *two, three, four,* and *entering* the lodge as before, then place them to *four* corners of the imaginary building.

Make the signs for *shaman* (abbreviated), *four,* and *come,* by bringing the curved though elevated index from the front and right to before the breast; then pass the right flat hand horizontally forward under the left palm also, to indicate *entering the Lodge.*

Indicate a large horizontal circle with both hands from nearly at arm's length backward toward the body; then make the sign for *man* (mustache), and move the body up and down and place the hands to the front and sides as if *dancing* around the circle just indicated.

HOT (weather).

Pass the slightly bent hands, palms downward, from before the cheeks, upward and outward as far as the top of the head. At the same time expel the breath several times, as in Ha! Ha! but not above a whisper.

HUNGRY.

1. Make the sign for *eat*, then rub the hand downward over the stomach and abdomen.

2. Make the sign for *eat*, then that for *nothing*.

HUNT, TO (for work or game).

With the palm down and the fingers directed forward, pass the hand rather quickly from side to side at a distance of about 20 inches before the face.

HUSBAND.

Make the sign for *man* (mustache), for *mine*, and *sleep*.

I, ME, MY, MINE. (Possession.)

The tips of the fingers placed gently to the middle of the breast, and at the same time make a slight inclination forward of the head.

KAIAK (Baidarka).

Place the closed hands on a level with and about 15 inches before their respective shoulders, palm or sides to the front. Then pass the left fist downward, backward, and outward toward the left, and in a curve continue upward, forward, and back to point of starting, i. e., the right follows the motion of the left, maintaining its distance as in commencement. When the left turns up and back on its course, the right begins a similar gesture on its side. "Represents the manner of using the double-blade oar (or paddle) of the coast natives."

KILL, TO. KILLED.

Place the right forearm horizontally forward from the elbow, flat hand, palm downward; the left flat hand pointing upward and forward from the left side; then, as the right hand is rotated outward and the back down, throw the left palm straight across and downward over the right forearm.

KILL, TO (with a gun).

Point the left forefinger forward at arm's length, the index pointing in the same direction from the right eye; then make the sign for *to kill, killed*.

KILL, TO (with a knife).

Make a forward and downward thrust with the fist, outer edge down, then conclude instantly with the sign for *to kill*.

KILL, TO (with a knife).

Thrust the right closed hand edgewise downward and toward the front, quickly, coming to an abrupt termination when about as low down as the height of the waist.

KILL, TO (with an arrow).

Simulate shooting with an arrow; then make the sign *to kill*.

LAND OTTER.

The flat hand edgewise (or the extended index) in a curve to the front—as for whale, in direction though not so high—and give several quick whistles as if calling pigeons.

LIE. (Falsehood.)

Make the sign for *talk;* then throw the hands outward and forward, palms down and slightly curved, at the same time puffing with the mouth—*bad*.

LODGE (Indian).

Place the inner surfaces of the tips of the extended fingers of both hands together, the wrists being only an inch or two apart.

Similar to a common Indian gesture.

LODGE (white man's).

1. Lay the edge of the extended index across the extended forefinger, the first joints touching.

2. In addition to the preceding, extend the left thumb and place on the extended index.

3. With the index and second fingers of both hands extended, place them together so that they cross about the first joints, the right index above.

MAN.

1. Pretend to catch the ends of the mustache with the hands and twist them outward from the face to right and left.

2. Pull the fingers and thumbs over the sides of the upper lip as if twisting and pulling outward a long mustache, then throw the right hand, palm forward, before the right shoulder, pointing upward.

MAN (old).

Place the finger tips of the slightly curved hands together before the chin, though about 6 inches from it, palms toward the jaw, then pass them upward toward their respective sides of the head; then imitate walking with a staff, by passing the closed fist edgewise forward and downward in a circle several times.

MANY.

Slap the palms quickly toward one another before the breast, fingers pointing upward and naturally extended and separated. Refers to "many-times counted-fingers."

MOON.

Close the eyes while indicating a circle with the hands above and in front of the head; then pass the flat hand, edgewise, out toward the front and right from the center of the breast.

MOTHER.

Close the hands, incline the head forward, then pass the hands upward from the back of the head, forward, and downward toward the forehead, the motion corresponding to the curve of the head, but the hands about 3 or 4 inches from it.

MOTHER.

Make the sign for *woman*, and to be *born*.

MOTHER'S BROTHER.

Make the sign *mother* [i. e. *women*, to be *born*, and *mine*], then for *tall*, by indicating height with the flat hand palm down; *man*, by elevating the hand, and that for *mustache*.

MOTHER'S SISTER.

Make the signs for *mother* [*woman*, to be *born*, and *mine*] and *young woman*; conclude by throwing the fist with the thumb extended in a pointed manner a little to the right, indicating *hers*.

MUSKRAT.

Curve the left fingers and thumb and bring the tips almost to a point, leaving a slight opening, palm down, and horizontal, finger tips pointing toward the right; then bring the extended index pointing from the left side directly toward the left, in an upward curve first, then downward and forward into the opening left at the tip of the left.

NIGHT.

Incline the head toward the breast with the eyes closed, and place the flat and slightly bent hands with the palms down before the brows, the finger tips almost touching.

NO.

Place the curved hands edgewise with the backs forward, the fingers touching and pointing toward the breast, then throw them outward toward their respective sides a short distance, though rather smartly.

NOTHING. (Have nothing.)

Throw the extended hands horizontally forward and outward toward their respective sides from a position before the breast.

OCEAN.

Make the sign for *big*, *broad*, and that for *kaiak*—indicating double-bladed paddle.

PEOPLE.

Move the elevated index with the palmed surface forward, from side to side, before the face. "Men at various places."

The index is an abbreviation of the general sign for *man*, and this was the only instance in which it was used.

PORCUPINE.

With the palms directed toward and near the ground, imitate slow walking by moving them alternately forward and backward; stoop over to the front, throw the separated fingers backward toward the hip, then throw the extended index violently outward and backward.

"Imitates slow movement of the animal, the spiny covering, and the direction of the spines thrown from the tail."

PORPOISE.

Place the right hand in the same position as for *whale*, make the motion to the front less in extent, and accompany with a whistling sound from the left corner of the mouth, resembling the sound pĭŭ.

RAIN.

Place the flat hands on a level with the face, palms down, fingers pendent, and move the hands alternately up and down, blowing gently with the mouth at the same time.

RIVER.

Make the sign as for *creek*, the hands being held much farther apart, then pass the right hand edgewise forward to arm's length, in a serpentine manner.

"Course and width of water containing fish."

SEA OTTER.

Flex both hands, place the outer edges together just before the neck, palms toward the face, throw the head back, open the mouth to full extent and imitate the guttural sound of X or ch twice or three times, at the same time making a downward pull with the hands.

SETTLEMENT.

Indicate a large circle, horizontally, by passing the hands in semicircle, right and left, from nearly at arm's length backward to the breast; then place the tips of the fingers of both hands together, leaving the hands and forearms leaning outward and downward to their respective sides, the distance between the elbows being about 24 inches.

The large-sized roof house indicates plurality in this instance.

SHAMAN (complete sign).

Make the sign for *grass, herbs*, then pull it from the ground by grasping forward with one hand, closing it and pulling it toward the body; then the sign for *to boil*, add the sign for *give*, and for *drink*, and conclude with that for *man*—mustache. Conception: *The man who boils herbs and gives the liquid to drink.*

SHAMAN. (Sorcerer, conjurer.)

Shake the hands, with the fingers spread, violently on either side of the head, imitate the cawing of a crow (or the barking of a dog) with the mouth, and flap the hands downward before the shoulders, then strike upward on either side of the face and forward, and with the scoop-shaped hand pretend to catch something in the air, and shake the hands thus placed, upward and downward, several times.

NOTE.—"The bird spirits are good, the animal, bad ones."

SHAMAN (common, abreviated sign).

Throw the hand upward from either side of the head [the upper arms horizontal] and wave the hands, with fingers extended and separated around in short circles, horizontally.

SHAMANESS.

Make the sign for *woman* and that for *shaman*.

SICK.

1. Place the flat right hand over the left breast, and the left over the right side below the right forearm; at the same time throw the head to one side, with eyes closed, and breathe heavily—uttering slight moans, if illness be extreme.

2. Throw the head and body to one side, breathe heavily, and lay the right arm across the breast with the hand over the left breast, and lay the left hand across below the right, so that the left hand touches the right forearm near the elbow, "internal suffering."

Cuts and fractures are indicated pantomimically, after which the above sign is made, to illustrate specifically the nature of the sickness.

SISTER.

Make the signs for *young woman* and *mine*.

SLEEP.

Bring the palm of the flat right hand toward the head, and incline the head to the right at the same time, with the eyes closed. Sometimes the palm touches the ear.

SNOW.

Make the sign for *rain;* then indicate depth with the flat right hand. This is not accompanied by blowing round, as the gesture for rain.

SON.

Indicate height with the flat right hand, then make the sign for *mine*.

STOVE, NATIVE.

Place the flat hands edgewise above and in front of their respective shoulders, about 20 inches apart, then pass them earthward as far as the hips; then pass the flat right hand, palm down, from the left side to the right as high as the top of the head, the left hand at the same time moving similarly from right to left and about 10 inches below the right. Then thrust the curved index several times toward the partially opened mouth. "Form of house—on poles and oblong—and sign for eat—food." Literally *food house*.

SUMMER SHELTER, TEMPORARY.

Place the separated and extended fingers of one hand against those of the other, the wrists about 8 inches apart, then draw the hands downward and outward a short distance to their respective sides; then pass the flat hands from a position in front of the face, and over the spot indicating the top of the roof in the preceding gesture, outward and downward to their respective sides; indicating first an angular roof of sticks; second, covering of skins giving it rotundity.

SUN.

Place the hands, with extended fingers upward at arm's length before the head at an angle of about 70°; then pass them outward, downward, and inward, indicating a circle of about 12 inches in diameter; then throw the extended and separated fingers upward and outward from the upper periphery of the imaginary circle, with palms to the front—rays of light. "Radiating sun," "light."

TALK, TO; TALKED.

Place the tips of the index, second finger, and thumb together; then as they are moved forward a few times from the same point at a distance of about 6 inches before the mouth, open them slightly as if letting fly that which had been held by them.

TIME, AGO. (Past time.)

Pass the upright flat left hand, back first outward toward the left, throwing the head slightly in the same direction.

TOBACCO (Coast sign).

Indicate a small box by passing the flat right hand edgewise to the right arm, the left toward the left, leaving a space between them of 6 inches; then pass both simultaneously from front to back—same distance between palms; then rub the approximated finger tips into the left palm and put left-hand fingers into the mouth, as if poking in a "quid of tobacco."

"Taking tobacco from a box." The coast natives carry tobacco in small wooden or other boxes.

TOBACCO (gesture as made by the Mountain or Kenai Indians).

Indicate a circle on the ground by passing both hands from a common point, outward, backward, and inward, of a diameter of about 10 inches, then make the sign for *fire;* then place the tips of the fingers of the right hand into the palm of the left, pretend to pick up ashes from the indicated fireplace, and mix with contents of left hand; then take the "mixed preparation" and place into the cheek, so as to push it out with the fingers.

Tobacco quids are carried behind the ear, and when wanted to chew, ashes are mixed with them, for pungency, etc.

TO-MORROW.

Make the sign for *one*, for *sleep*, and for *day*.

TRAP (Marten).

Place the closed left hand before the breast, palm inward, fore and second fingers extended and separated, then introduce the index at right angles between them and snap them together. "Represents the trap used in the capture of martens."

TRAP (mink and weasel, or for those animals).

Place the flat left hand before the body, palm upward, finger tips directed downward; then place the wrist of the flat right hand upon that of the left, the finger tips pointing forward and upward, then slap the front of the hands together.

"Represents the form and fall of the trap used in the capture of these animals."

TREE.

Pass the elevated and extended index upward before the face as high or higher than the top of the head; then from the point of termination of the movement pass the right and left hands upward and outward to their respective sides, fingers extended and slightly separated.

"Stem, and branches."

TRIBAL SIGNS (Coast natives generally).

Make the sign for *man* [mustache] and imitate paddling a boat—on one side only.

"Canoe men."

TRIBAL SIGNS. (Island people.)

Indicate a large horizontal circle by drawing the hands outward, backward, and inward toward the breast from a point nearly at arm's length; then add the sign for *people*.

The sign for *island*, here, is the same as the first part of the sign for *settlement*. The specific addition indicates the difference.

TRIBAL SIGN (Kiatexʹamut).

Make a sign for *man* [*mustache*], then indicate a queue by drawing the extended index downward, outward, and backward from the upper posterior portion of the head.

"Queue men, i. e., the men who wear queues."

TRIBAL SIGNS (Koʹlosh) [Kolʹtsan].

Make the sign for *man* [mustache], for *river*, and for *mountain*, then place the right closed hand with the back forward and downward, leaving the index slightly flexed so as to point upward.

"Mountain-river men."

TRIBAL SIGNS (Russian).

Place the right closed hand with the palm up pointing downward and outward to the right, the index only partly extended and curved upward—pipe bowl; then push the hand forward a short distance—length; then pretend to grasp a stick by placing the hand to the right corner of the mouth, the index and second fingers above, the thumb pressing from below—holding pipe; then give several vigorous puffs.

"The pipe smokers."

NOTE.—It is affirmed that "pipes were not smoked prior to the advent of the Russians."

TRIBAL SIGNS (Tai-aut) [Aleutian].

Hold the hands edgewise and about 8 inches apart, pointing horizontally forward, then pass the hands forward and gradually to a point representing the sharp bow of a boat; then place the two fists, palms forward, as high as and forward from the shoulders, throw both hands downward, backward, and outward toward the left, then similarly to the right side, retaining the relative distance between the hands always—manner of using the double-blade paddle.

TRIBAL SIGNS (Ti-nai'-na) [Tenan Kutchin].

Both hands flat and edgewise, pointing horizontally forward; place the wrists together, the fingers and palms directed outward, forming an angle of about 40°; then pass the hands forward and outward and inward again until the finger tips join—outline of wooden boat; then imitate movement as if working single paddle, as in the sign for Kadiak.

TRIBAL SIGNS (Tini-na).

Make the sign for *man* [mustache]; then make the sign for *fire* as high upward, from near the ground, as the face.

"The men who have big fires."

WHALE.

Bend the flat right hand edgewise toward the ulna; place it before the right side pointing upward and to the front, allowing the thumb to be erected slightly so that the tip points upward; then pass the hand upward, forward, and downward, describing a curve with the convexity above. At the same time, accompany the movement with a sound represented by "piū' from a higher to a lower note, embracing about six notes.

"Movement of whale and sound."

WIFE, MY.

Make the sign for *woman, earring*—with both hands and ears—and conclude by making that for *sleep*.

WIND.

Throw both palms alternately forward from the corresponding sides of the body, and blow violently with the mouth.

WINTER.

Place the flat hands with spread fingers as high as the head and about 2 feet before it, finger tips touching, then pass them in downward curves outward toward their respective sides—form of hut; then hold the left flat hand and forearm pointing horizontally toward the right, and pass the right hand, palm down, forward, under and beyond the left arm, when the right hand again rises a little. Conception: *Entering by a deep channel—underground.*

WOLF.

Throw the right hand (or both right and left) directly forward from the face, with the fingers spread, and as the hand reaches arm's length clinch the thumb and fingers; at the same time open the mouth to the fullest extent and force out the breath audibly and snap the teeth.

WOMAN.

Pass the partly flexed hands from the top of the head downward toward their respective shoulders. The hands follow the outline of the head and shoulders, but do not touch them. Conception: *Long hair.*

WOMAN (old).

Make the sign for *woman;* then hold the closed hand before the face, palm forward, the index being raised and bent toward the front. "Curved and bent of body of an old person."

YES.

Nod the head forward until the chin touches the breast, once or twice.

YESTERDAY.

Make the sign for *one*, for *sleep*, and for *past time*, by passing the upright flat left hand slowly outward toward the left, leaning the head a little in the same direction.

YOUNG MAN.

Pass the naturally closed hands from the front of the body backward around the sides of the waist, then bend the elbows and move the arms as if running. Conception: *Belt, and activity and vigor.*

YOUNG WOMAN.

Make the sign for *woman:* then gently grasp the lobe of the ear with the thumb and index and pass the hand down slowly as far as the front of the shoulder—"long hair" and "earring."

SPECIMENS REFERRED TO IN PRESENT PAPER.

The specimens selected from the collections of the National Museum, upon which to base the present paper, are enumerated below, and in all instances, where possible, the National Museum Catalogue number is attached, as well as the nature of the specimen, the locality from which obtained, and the name of the collector. Other information of interest as to the character of the etchings engraved therein is also added in a few examples.

The list is divided into two general classes, the former embracing the drill bows, bag handles, and other long rods; while the second comprises all other inscribed pieces, such as utensils, weapons, ornaments, toys, and other undetermined specimens.

The leading word refers to the article under consideration, which is followed by the locality where it was obtained. The name of the collector is next given, which, in turn, is followed by the numbers under which it is placed in the accession list of the National Museum.

The entire series of numbers, from first to last, is in order so as to facilitate identification by that means as well as the kind of object referred to.

The list forms but a small part of the collections from Alaska, but is sufficiently comprehensive for the present paper.

DRILL BOWS AND BAG HANDLES.

DRILL BOW. Anderson River. R. Kennicott. 2171. Has a long thong attached. The bow is of ivory, 13 inches long and three-fourths of an inch in height, being much heavier and rounded in form than others. There is no ornamentation.

BAG HANDLE. Norton Sound. L. M. Turner. 24412. Plate 31, fig. 2.

BAG HANDLE. Norton Sound. L. M. Turner. 24417. Plate 31, fig. 3.

BAG HANDLE. Norton Sound. L. M. Turner. 24415. Plate 38, fig. 1.

BAG HANDLE. St. Michaels. L. M. Turner. 24425. Plate 38, fig. 2.

BAG HANDLE. Norton Sound. E. W. Nelson. 24427. White ivory specimen with characteristic zigzag pattern in parallel-line space.

KUNTAG HANDLE. St. Michaels. [L. M. Turner.?] 24429.

DRILL BOW. Norton Sound. L. M. Turner. 24533. An old stained bow, with rude figures representing a whale being harpooned, with float in the air. Following this is an umiak, and a native behind a hillock watching some reindeer. The hillock is surmounted by a tree, though the figure resembles smoke issuing from a hut. The opposite side has four vessels, one with natives, and a man near a walrus, behind a wolf, next a reindeer, and before this another wolf and a goose. The oblique figures at the end are ornamental.

DRILL BOW. Norton Sound. L. M. Turner. 24536. Bears upon one side the figure of a stern wheel steamboat, an illustration of which is given in fig. 31. Upon the reverse a few reindeer, fox, wolf, a two-masted schooner, and a three-deck kaiak, above the latter an outline of the human figure with arms partly extended, as in gesture for *surprise*. The upper edge or rim has some decoration consisting of rude short lines arranged diagonally, though crossing at right angles to one another.

DRILL BOW. Norton Sound. L. M. Turner. 24537. An old bow, having on one side a number of seals, divided into two divisions by eight upright whale flukes. Rather decorative. Opposite side has men and dogs.

DRILL BOW OF HORN. St. Michaels. L. M. Turner. 24538.

DRILL BOW. Norton Sound. L. M. Turner. 24539. One side of the three decorated faces bears figures of seals and walruses, with hunters armed with bows and arrows, and with spear. A bear also is shown, while on the reverse is a herd of reindeer being hunted.

DRILL BOW. Norton Sound. L. M. Turner. 24543. But one side and the bottom edge are decorated. The side bears a hunting record, three human figures, at the middle, being interested in the result of shooting at some reindeer and other animals. At the left end is a kaiak, the occupant of which is after a large bird and two walrus. Upon the bottom edge are four hunters, each in his kaiak, after four whales, three of which have been harpooned. The hunters are represented as holding their paddles horizontally above the head, the gesture or signal that they have cast the spear or harpoon, and also to indicate "assistance wanted" in so far that the animal may be kept sight of and not permitted to escape.

DRILL BOW. St. Michaels. L. M. Turner. 24545. This bears some of the best incised of the ordinary art work of this locality.

DRILL BOW. Norton Sound. L. M. Turner. 24546. Made of reindeer horn, and bears upon the under surface a row of eleven seals, one before the other, heading toward the right.

DRILL BOW. St. Michaels. L. M. Turner. 24548. Made of reindeer, and bears two rows of these animals divided in the middle by three persons—one hunter and two attendants making gestures of attention to herd and indicating its whereabouts.

DRILL BOW OF HORN. St. Michaels. L. M. Turner. 24551.

DRILL BOW OF HORN. St. Michaels. L. M. Turner. 24552.

DRILL BOW. St. Michaels. L. M. Turner. 24553. A white piece of ivory, with record of a man smoking while one hands an arrow to the third who is shooting a reindeer. Other animals are also portrayed farther to the right. Dog sledge and native, as well as houses, are shown on next side, while upon the third face are two longitudinal border lines with interior crosspieces of ornamentation, denoting the wavy or zigzag pattern. See also figures and accompanying references *passim*.

DRILL BOW. St. Michaels. L. M. Turner. 24556. Piece of four panels, two of which have umiaks with hunters. Opposite side has zigzag patterns by pairs, both inclosed between the usual parallel lateral lines.

DRILL BOW. St. Michaels. L. M. Turner. 24557. Made of reindeer horn; is ornamented on one side with deeply cut and uncolored outlines of birds, wolves, deer, men, and mythic animals, several appearing like alligators.

DRILL BOW. Sledge Island. (?) 28021. Although so marked, the record in accession catalogue is not in accord and the collector's name not given, which, without doubt, should be Mr. Nelson's.

DRILL BOW. Norton Sound. E. W. Nelson. 33179. Bears on the convex surface some dancers. At the other end is a well-drawn umiak, from which an animal is running. The lateral edges are ornamented with deeply incised blackened creases, while the under side bears but two human figures, in the attitude of boxing or sparring.

DRILL BOW. Norton Sound. E. W. Nelson. 33181. The bow is curved edgewise, plain, with the exception of a heavily incised crease at the base of either side. One of these creases shows evidences of repeated scratchings with a finely pointed tool.

DRILL BOW. Norton Sound. E. W. Nelson. 33182. A yellowish, rather old, specimen with various figures, nearly all of which are characteristic.

DRILL BOW. Norton Sound. E. W. Nelson. 33183. A four-sided round-edged piece of old ivory, 13½ inches in length, upon one side of which only a simple figure occurs—that of a man with his arms curved and hands resting on his hips.

DRILL BOW. Norton Sound. E. W. Nelson. 33184. This bears marginal lines extending from end to end, at one end being a kaiak with a single hunter, while at the other are four inverted umiaks; apparently not a finished drawing.

DRILL BOW. Norton Sound. E. W. Nelson. 33188. Made of reindeer horn, and is rather thin and deeply creased on either edge by one groove, and by two grooves upon the upper and under sides. The lower side bears sharply incised engravings of reindeer hunting; the herd of animals is lying down, while the hunter is crawling up on all fours, being hidden by a hillock.

DRILL BOW. Norton Sound. E. W. Nelson. 33189. A bow made of reindeer horn and bears sharply defined characters of boats, sledges, meat racks, etc.

DRILL BOW. Norton Sound. E. W. Nelson. 33190. Bears upon convex side a herd of reindeer, with one hunter at the right end of the rod.

BAG HANDLE. Kogik. E. W. Nelson. 36375.

DRILL BOW. Norton Sound. E. W. Nelson. 37178. A triangular bow, with figures of conventional seals along the lower side; conventional T-shaped whale flukes along a horizontal line upon the one side of the upper surface, while on the other side are the conventional rear ends of whales, with the flukes projecting.

KANTAG HANDLE. Norton Sound. E. W. Nelson. 37742. Plate 14, fig. 3.

DRILL BOW. Shaktolik. E. W. Nelson. 38521. Bears upon one side nineteen reindeer, no doubt purely for decorative purpose. Upon the opposite side are also twelve reindeer, though heading in the opposite direction. These, too, are all alike, or nearly so, and appear to be intended rather for decorating the bow than as a record only.

DRILL BOW. Shaktolik. E. W. Nelson. 38522. Hunter partly obliterated, but to his right are five whale flukes setting on end T-shaped and indicating that number of whales captured. The opposite side—the bow being made to stand edgewise—bears a reindeer which is being shot at by a hunter. The latter is lying flat and aiming with a gun. At the other end are three granaries.

BAG HANDLE. Shaktolik. E. W. Nelson. 38523. Six inches in length and rather stout. It is yellow with age, and bears upon the upper side one base line, to which are attached eight figures of concentric circles with deep central pits.

BAG HANDLE. Yukon River. (?) 38539. Plate 38, fig. 3.

BAG HANDLE. Location unknown. 38752. Plate 31, fig. 1.

BAG HANDLE. Norton Sound. E. W. Nelson. 38776. Plate 31, fig. 4.

DRILL BOW. North of Norton Sound. E. W. Nelson. 38781. Both upper and lower sides decorated with nucleated rings, the central perforations or incisions being rather deep. The circles measure three-eighths and five-sixteenths of an inch in diameter, arranged without any special care or purpose, simply following the general horizontal direction of the faces. One edge has whale flukes and the other triangular summer habitations in regular order and apparently for decorative purposes only.

DRILL BOW. Port Clarence. T. H. Bean. 40054. This bow bears hunters spearing seals through the ice, some of which are illustrated elsewhere. Upon the other side are several figures of mythic animals. Upon one edge is a village of triangular-shaped dwellings, with meat rack in middle.

KANTAG HANDLE. St. Michaels. E. W. Nelson. 43434. Plate 80, fig. 2.

DRILL BOW. Shaktolik. E. W. Nelson. 43810. Delicate and beautiful engraving marks this as very superior to most specimens. The reindeer is shown on one side; delicately engraved umiaks and a kaiak are on the next adjoining side, while on the reverse are partly obliterated characters, shown and described in text in figures.

KANTAG HANDLE. Unalakleet. E. W. Nelson. 43820. Plate 58, fig. 3.

DRILL BOW. Nubuiakhchugaluk. E. W. Nelson. 43931.

KANTAG HANDLE. Nubuiakhchugaluk. E. W. Nelson. 43936.

DRILL BOW. Cape Darby. E. W. Nelson. 44206. Much curved and old specimen. The length straight across from point to point is 11 inches, while the height of the curve is 4 inches. Both sides are decorated, the narrow edges having only parallel lines, excepting one place ornamented with an umiak containing three persons The upper side bears a variety of delicately engraved figures, occupied with various avocations, and many of them represented in attitudes to denote action and gesture. The under side bears a herd of reindeer, the animals, after passing through a slough or river, approaching a hunter who is armed. Beyond this person is another engaged in cutting up a reindeer which is lying upon its back. At the right side are four other reindeer in various lifelike attitudes.

DRILL BOW. Cape Darby. E. W. Nelson. 44207. Bears a few coarsely engraved characters, at one end being the upper line of a whale's figure, to which are attached lines like fins or spines from the head down toward and nearly touching the flukes.

DRILL BOW. Cape Darby. E. W. Nelson. 44208. Walrus hunting and scaffolded umiaks are shown on one of the two lower surfaces, the upper flat surface being without any engravings. The work is very graphic, and some of the boats in the water are scattered, to resemble the work of Japanese artists—as pertains to an attempt at perspective in this instance. The specimen is shown as a text figure.

DRILL BOW. Cape Darby. E. W. Nelson. 44209. Plate 24, fig. 1.

DRILL BOW. Cape Darby. E. W. Nelson. 44210. Records on two sides consist almost entirely of reindeer in various attitudes, and some very lifelike. A few animals are drawn foreshortened.

DRILL BOW. Cape Darby. E. W. Nelson. 44212. Old yellow ivory specimen, decorated on four faces. The dorsal surface has two figures incised to the depth of over one-sixteenth of an inch, the figures consisting of rudely drawn animals and human beings.

At the side is a series of outlines of the human figure, with arms in various attitudes, as in records portraying ceremonial dances, though in the present instance the figures appear seated upon the ground, or base line. Boats and walruses are also to be seen nearer the right end, while at the left is a seal hunt.

Upon the opposite side are several umiaks, going toward the right, in pursuit of a whale. In the middle of the record are some indefinite outlines, among which, however, may be detected that of a reindeer.

The under side bears upon it a number of animal forms at the left, while a well-drawn whale is next portrayed, followed by another, whose body is thrown partly from the water, having been harpooned by a hunter in the pursuing umiak at the right. A whale fluke projects from the water behind the boat, while two cubs and an adult bear are next shown, approaching three large figures, which seem to be intended for heavily robed or dressed natives.

DRILL BOW. Cape Darby. E. W. Nelson. 44213. Upon the dorsum of this piece is a group of ships and native boats. Rude engravings of ships occur on one side, while white men's houses are represented at other portions.

DRILL BOW. Cape Nome. E. W. Nelson. 44366. Delicate and sharp engraving marks this specimen as characteristic of this locality.

The herd of deer shown in fig. 9 are from this piece.

DRILL BOW. Cape Nome. E. W. Nelson. 44367. Represents a walrus hunt and harpoon throwing. Illustrations have been selected from this rod and reproduced in connection with hunting and fishing.

BAG HANDLE. Cape Nome. E. W. Nelson. 44398. This fine large specimen has numerous figures of flying birds and human forms resembling the Ojibwa thunder bird. Whale and other hunts are also portrayed.

DRILL BOW. Cape Nome. E. W. Nelson. 44399. A strong piece measuring 17½ inches in length. The two flat sides and one lateral edge have been decorated.

BAG HANDLE. Cape Nome. [E. W. Nelson. ?] 44427. Bears crude though typical characters of umiak, +-like bird figures, and several human figures. The specimen is yellow and considerably worn.

DRILL BOW. Cape Nome. E. W. Nelson. 44400. A narrow specimen, measuring 13¾ inches in length, five-sixteenths of an inch high, and one-fourth of an inch thick. The engravings represent walrus hunting, and two of the kaiaks are unusually interesting, the spear rack or guard being indicated in the first kaiak, while on the second the harpoon line is shown with the twists and curves observable when a coiled line is cast out.

DRILL BOW. Cape Nome. E. W. Nelson. 44401. Plate [23], fig. 1.

DRILL BOW. Cape Nome. (E. W. Nelson. ?) 44464. Interesting from the fact that both slopes of the under surface bear rows of umiaks, some with meats and some without, so placed as to suggest ornamentation rather than an attempt to record historic or other information.

Upon the upper side the entire length is also divided by a median line. Upon either side the space is filled with various figures, such as camp scenes, dances, and various avocations.

The specimen is rather yellow with age, and the figures partly filled with a brownish black substance.

DRILL BOW. Cape Nome. E. W. Nelson. 44465. A yellow, old, piece of ivory, with a sharp-lined series of small figures at the end upon the upper edge of the bow. There are five swimming seals, rather conventional in outline, above which three birds are seen in the forms of small cross-like characters. Before these is a figure resembling a bear(?) and still farther forward a seal.

DRILL BOW. Cape Nome. E. W. Nelson. 44466. Plate 24, fig. 4.

DRILL BOW. Cape Nome. (E. W. Turner.) 44467. The herd of deer upon the upper curve of this specimen is shown as a text figure. The lower side, and the edges also, bear camp scenes, while various human figures in attitudes of gesture are shown on the side.

KANTAG HANDLE. Sledge Island. E. W. Nelson. 44690.

BAG HANDLE. Sledge Island. E. W. Nelson. 44691.

BAG HANDLE. Sledge Island. E. W. Nelson. 44716. Measures but 5¾ inches in length, and bears upon the top some conventional "trident" tree figures, each placed alternately facing, between parallel longitudinal lines.

KANTAG HANDLE. Sledge Island. E. W. Nelson. 44717.

DRILL BOW. Sledge Island. E. W. Nelson. 45016. Parts of this are reproduced in text figure. The lines are sharp and cleanly incised. One peculiarity in the figures of human beings on records from Sledge Island is that the heads are all, or nearly all, made by boring with drill. One side of another face bears an umiak with harpooned whale, following a neatly engraved white umiak containing 3 figures.

The under side bears some obscene figures, or rather those made obscene by gesture and additional drawings.

DRILL BOW. Sledge Island. E. W. Nelson. 45017. The figures of a series of habitations, boats on racks, and umiaks afloat, are all neatly and definitely incised. Upon the reverse is a settlement of two winter habitations and one scaffold, the five human figures being portrayed with hands and arms elevated, slightly inclined toward the left end of the bow, seemingly as if some further portion of a record had been contemplated but not executed. The color employed in filling the incision is black, and the entire specimen, and engravings, has a modern appearance.

DRILL BOW OF HORN. Sledge Island. E. W. Nelson. 45018.

DRILL BOW. Sledge Island. E. W. Nelson (?). 45019. The decorations on this interesting specimen are reproduced in text figure. The work is characteristic, the dancers only resembling the deeply engraved figures usually found on the specimens from Kotzebue Sound.

DRILL BOW. Sledge Island. E. W. Nelson. 45020. This old specimen presents a whaling fleet. Upon the reverse is a group of natives fishing through the ice, near by being their residence, granary, and votive offerings stuck up upon the entrance to the house.

DRILL BOW. Sledge Island. E. W. Nelson. 45025. Upper side slightly rounded, while the bottom is divided in two sides or faces. All these are decorated with sharp, fine lines, characteristic of Cape Nome workmanship. The specimen is very yellow and has an old appearance, chiefly because of the signs of long-continued use.

KANTAG HANDLE. Sledge Island. E. W. Nelson. 45154.

DRILL BOW. Cape Nome. E. W. Nelson. 45330.

DRILL BOW. Cape Nome. E. W. Nelson. 45331. An old piece of ivory with characteristic engravings. The type is recognized, if any special difference may be said to exist between this and other localities, by the thin, though sharply incised, lines and brown-black color applied to bring out the cavities. A great deal of gesticulation is always represented in connection with the portrayal of the human figure.

One of the two upper faces has upon it a herd of reindeer, the other face a seal hunt, while the bottom has the drawings of buildings and storehouses for food.

DRILL BOW. Cape Nome. E. W. Nelson. 45332. A triangular slightly curved bow, 17⅛ inches in length. The specimen is yellow from age and bears the delicate hair-like incisions or engravings characteristic of the locality from which it came. Gestures are frequently indicated, though the chief features of the bow refer to reindeer and walrus hunting. At one end is a dance, the performers being drawn in various attitudes.

On the under side are the fine lines portraying two kaiaks approaching one another, the occupants holding aloft their paddles, while between them are two seals. A little farther toward one side is an umiak with five occupants, whose heads and faces resemble birds' heads with long sharp bills.

DRILL BOW. Cape Nome. E. W. Nelson. 45333.

DRILL BOW. Cape Nome. E. W. Nelson. 45345. Bears herds of reindeer, some browsing, while others are in various attitudes upon the ground. The under side bears a herd of reindeer approaching a hunter. At the right end are two bears, apparently a mother with its cub.

DRILL BOW. Cape Nome. E. W. Nelson. 45346. Some of these etchings embody gesture signs, and are reproduced in connection with that subject.

DRILL BOW. Port Clarence. W. H. Dall. 46056. Made of a rib, is almost 12 inches across from tip to tip, and retains a thong of leather for drilling purposes. There are no decorations of any description.

DRILL BOW. Fort Anderson. R. MacFarlane. A rounded bow 11¼ inches long, resembling the preceding in smoothness and absence of decoration.

DRILL BOW. Golovin Bay. E. W. Nelson. 48080. A specimen yellow with age. No decorations appear with the exception of two parallel lines on both the upper and lower surfaces. The handle has been much worn by long-continued use.

DRILL BOW. Cape Darby. E. W. Nelson. 48115. An old-looking yellow specimen, upon which is the whale being dragged from the water and cut up, shown in plate 67, fig. 3.

The opposite side has the ceremonial dance, and drummer from whose instrument the sound is represented as going out over the group of dancers. Plate 72, fig. 2.

KANTAG HANDLE. Cape Darby. E. W. Nelson. 48137.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48518. A dark yellow specimen, crudely and heavily engraved with ship, walrus, etc. A good harpoon line and effect of cast is shown.

DRILL BOW. Cape Nome. E. W. Nelson. 48330. Bears solid herd of reindeer nearly 3 inches long, while on other side are reindeer, and men making gestures

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48519. An old and very yellow specimen of ivory. Four sides of the piece are decorated with several distinct styles of records. The upper or convex side bears the deeply engraved figures of whaling ships foreshortened, and habitations, probably indicating some trader's establishment. On one side is a native, drawn lengthwise, next to him being portrayed a rack with meat (fish) suspended, while next to this is a net stretched out for drying.

The next characters resemble the curved parallel lines used by the Pueblo tribes and the Ojibwa to denote the sky, beneath which are parallel vertical lines running down to the base or ground line, resembling the symbol for rain. The present figures are believed, however, to denote the aurora borealis, a like figure having been drawn for the present writer by Naomoff and verified by a Malamut Eskimo in California at the same time when the investigations were made at the museum of the Alaska Commercial Company.

A very rudely drawn figure of a winter habitation, with smoke issuing from the top, is shown next toward the right, the end of the rod bearing smaller figures of food rack, huts, etc.

The under side of the rod bears, at the left, two dog sledges being dragged forward, and preceded by nine natives running toward a large winter habitation. These natives are in various attitudes to represent locomotion, and each has a projection upon the head, as if ornamented with a plume, though it may represent the top of the furred hood.

The engraving is generally deep, and characteristic of the locality from whence it was obtained.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48520.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48521.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48522. A dark yellow specimen, apparently very old, and engraved on three sides. Figs. — are from this piece. All the engravings are deeply cut and blackened. One side bears 15 seals, 14 of which are being dragged, the entiré series resembling an attempt at decorative results rather than historic.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48524.

DRILL BOW. Norton Sound. E. W. Nelson. 48525. This bow is tinged with age, and is of a decided orange along one side. Parts of the engravings, which cover the four sides, have been reproduced in plate 22, fig. 3. Many parts of some of the engravings have become so worn by long-continued use as to be too indistinct to admit of interpretation. The figures are, on the whole, rather deeply and boldly incised, and show a marked likeness to the rest of the work from the locality where it was evidently made.

The coloring matter in the incisions has assumed a deep brown color, as if the original black had become covered or replaced by dirt or grease.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48526. Very deep and strong engravings on old ivory.

DRILL, OR HANDLE. Kotzebue Sound. E. W. Nelson. 48527. This old stained piece bears upon the two upper sides a number of animal forms, one row being a series of six reindeer, together with several seals and whales. A native in his kaiak is represented with his arms uplifted, and probably the fingers were drawn spread, use of specimen having worn the surface smooth.

One underside has a long row of ten wolves and one reindeer, faced by a hunter shooting an arrow, who is accompanied by two other hunters and a dog. The other side shows a whale hunt and a walrus and bear hunt, the two hunting scenes being divided by a narrow vertical line bearing delicate cross-hatchings, and denotes the partition of the two.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48528. Plate 22, fig. 2.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48527.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48530. Specimen deep yellow with age and use. The characters are deeply incised and represent very heavy-bodied reindeer. Both sides are decorated.

DRILL BOW. Kotzebue Sound. E. W. Nelson. 48531. Plate 21, fig. 1.

WORK BAG FASTENER. Sabotnisky. E. W. Nelson. 48966. Made of a three-sided piece of ivory in which the corners have been rounded and smoothed. The ornamentations are sets of cross-lines, to the center of which are short lateral lines, and between each such transverse set are small black spots and crosses.

DRILL BOW. Hotham Inlet. E. W. Nelson. 64153. A piece originally almost square, but by perforating at the ends, from beneath, the specimen was split vertically. Both sides are ornamented, however, one side with but a few scratches, while the other has a very interesting whale and walrus hunt.

DRILL BOW. Hotham Inlet. E. W. Nelson. 64152. An old specimen with four sides crudely engraved. Shooting with firearms, dragging seals, etc., comprises the subjects portrayed. Three whale's flukes are also erected, to denote that animal, while a dog sledge, with very rude drawing of the dog.

DRILL BOW. Diomede Island. E. W. Nelson. 63621. Only 9 inches long and averages one-fourth of an inch square; yet the four sides are ornamented; three have lateral longitudinal border lines, between which are recorded numerous figures of umiaks after walrus and a ceremonial dance with one drummer. On another side is a village, showing summer habitations or conical houses, near meat racks, some boats, etc. The under side bears several animal forms, and two mythic figures resembling the water monster, i. e., an elongated four-footed and horned or crested serpent, referred to by Naomoff in connection with fig. 139, *c*.

DRILL BOW. Diomede Island. E. W. Nelson. 63623. Dark yellow or light brown piece of ivory. The four engraved sides are shown in text figures.

KANTAG HANDLE. Point Hope. E. W. Nelson. 63801.

DRILL BOW. Point Hope. E. W. Nelson. 63802. Very crude though deeply incised line, composing animals, etc., is shown on rather white ivory. An interesting whale hunt is shown; the flukes appear like detached decorative ones, attached to the rear end of bodies.

Flukes are also shown at one place; while a native crawling along on his stomach, to approach seals, is also engraved.

Upon the top edge are four birds, four different forms of representing them.

BAG HANDLE. Point Hope. E. W. Nelson. 63803. The undersurface of this stained old specimen bears the figures of eleven outstretched hides, at the right being a human figure. Upon the top face is some linear decoration, while near the middle of the specimen are figures of four reindeer, facing to the right. Portions of the figures are without the brown-black stain, the legs being slender and the hoofs indicated by minute etchings made by a sharp-pointed graver.

Upon the outer curve are a number of nucleated rings, 33 in number, and each three-sixteenths of an inch in diameter. The under side bears a median line, upon which are portrayed, in various attitudes, nine reindeer. The figures are rather deeply incised and very black. The coloring matter in several places has fallen out, as if it had become hard or dry.

BAG HANDLE. Point Hope. E. W. Nelson. 63809.

BOW OR HANDLE. "Chilcat." J. J. McLean. 67904. An almost square, slightly curved specimen, with engravings on all sides excepting the under or concave one. The top or convex surface bears, among other objects, a large umiak, the four occupants of which are indicated by the heads, arms, and paddles only, the vertical body line being purposely omitted or forgotten. Some conventional trees are used as ornamental markings. The sides bear seal hunts, and most of the records have been reproduced in the text.

Each side is ornamented by two deeply incised grooves, one at either edge of the faces of the bow, and the engravings are deeply and forcibly made, all being filled in with black.

Though marked as from "Chilcat," the specimen has the characteristic appearance of the work done by the natives of Norton Sound.

BAG HANDLE. Point Barrow. Lieutenant P. H. Ray, U. S. A. 89420. Measures 14¾ inches in length, the upper surface being rather flat, while the under side is rounded or convex. Upon the upper surface are twelve reindeer, one behind the other and facing the left, while at the extreme right is a man holding a bow drawn, but no arrow indicated; while at the extreme right is a figure resembling an outstretched bearskin. The engravings are strongly incised and greatly resemble those made at Norton Sound and Kotzebue Sound. There is no coloring matter in any place, and it is believed that the work was not made by Point Barrow natives, but secured by them by traffic or otherwise from some locality farther south and west than Point Barrow.

The arrangement of the reindeer, the apparent similarity in all respects, and their regular spacing—between the figures—suggests that, although the record seems to be intended for a hunting score, it was also made with a view to presenting an ornamental and decorative appearance.

DRILL BOW. Point Barrow. Lieutenant P. H. Ray, U. S. A. 89424. Plate 3, fig. 4.

BONE DRILL BOW. Point Barrow. Lieutenant P. H. Ray, U. S. A. 89508. Made of a rib, measures 12½ inches across from point to point, and is rather rudely made. Bears no decoration.

DRILL BOW. Point Barrow. Lieutenant P. H. Ray, U. S. A. 89777. Bears a vertical line with radiating lines from one side only. The ivory is pieced near one end to lengthen the bow; the coloring matter is pale, but consisted of a reddish substance resembling red ocher.

DRILL BOW. St. Michaels. L. M. Turner. 129223. Ornamented on lower side by a "solid" herd of reindeer, wolves, seals, walrus, and other animals. The incisions are deeply cut and are left uncolored, appearing light yellowish gray as compared with the dark surrounding surface. Made of reindeer horn.

DRILL BOW. Location not given. M. M. Hazen. 154071. Whaling ships in pursuit of whales and a walrus. An Innuit village is at the right. On the other side are very deeply engraved figures of habitations, umiaks on scaffold, etc. The character of work resembles that of Kotzebue Sound.

MISCELLANEOUS AND VARIED SPECIMENS.

The following are miscellaneous specimens, embracing tools, implements, utensils, toys, etc., all of which are variously marked with etchings of animals, villages, occupations, and in many instances only with lines, dots, and circles, to illustrate the application of such figures for the purpose of simple ornamentation.

"CORD BUTTON." Intrusive carving.

SAW. Anderson River. C. P. Gaudet. [1304.] Plate 17, fig. 2.

BONE TOY. Yukon River. W. H. Dall. 5610.

IVORY SLAB. Fort Anderson. R. MacFarlane. 7454.

BELT CLASP. Eskimo Innuit. W. H. Dall. 16140.

PENDANT FOR EAR. Nunivak. E. W. Nelson. 16199. Magemut ear pendant of ivory, marked with spiral line from one end, around the body to the other extremity.

ROUND BOX. Norton Sound. L. M. Turner. 24352. Plate 34, fig. 3.

IVORY CASKET. St. Michaels. L. M. Turner. 24606. Plate 25, fig. 1.

SPEAR STRAIGHTENER. Kowak River. Lieutenant Stoney. 27893.

HOOK. Location not given. L. M. Turner. 29618.
THIMBLE HOLDER. Norton Sound. L. M. Turner. 29731.
WOODEN BOX. Norton Sound. E. W. Nelson. 33077. Plate 34, fig. 2.
BODKIN. Norton Sound. E. W. Nelson. 33176. Plate 24, fig. 5.
BODKIN. Norton Sound. E. W. Nelson. 33177. Plate 24, fig. 6.
SNUFF BOX. Norton Sound. E. W. Nelson. 33197.
BONE ICE GUARD. Norton Sound. E. W. Nelson. 33219. Used to put over bow of kaiak to keep off ice, or injury to vessel. Plate 41, fig. 3.
BODKIN. Norton Sound. E. W. Nelson. 33257.
DRAG HANDLE. Norton Sound. E. W. Nelson. 33292.
BOW STRENGTHENER. Norton Sound. E. W. Nelson. 33309. Plate 14, fig. 5.
BOW STRENGTHENER. Norton Sound. E. W. Nelson. 33310. Plate 14, fig. 7.
BOW STRENGTHENER. Norton Sound. E. W. Nelson. 33311. Plate 14, fig. 4.
BOW STRENGTHENER. Norton Sound. E. W. Nelson. 33312. Plate 14, fig. 6.
ORNAMENTED BONE. Norton Sound. E. W. Nelson. 33315. Plate 14, fig. 1.
BEAVER CARVED OF BONE. Norton Sound. E. W. Nelson. 33356.
BELUGA CARVED OF BONE. Norton Sound. E. W. Nelson. 33373.
EAR PENDANTS. St. Michaels. E. W. Nelson. 33491.
GRAYLING. Norton Sound. E. W. Nelson. 33535.
BONE ORNAMENT. St. Michaels. ? 33640.
CARVING. Aleutian Islands. L. M. Turner. 35900.
SHUTTLE. Aleutian Islands. L. M. Turner. 35908.
EARRING HOLDER. Agaiyukchugumut. E. W. Nelson. 36011.
SEINE THIMBLE HOLDER. Kushunuk. E. W. Nelson. 36452.
IVORY ORNAMENT. Kushkunuk. E. W. Nelson. 36477.
EARRINGS. Askenuk. E. W. Nelson. 36861.
HAIR ORNAMENT. Kushunuk. E. W. Nelson. 37003. Fig. 3 of plate 42, and bears diagonal cross lines at top, and two concentric rings at each lower lobe.
IVORY BUCKLE. Agaiyukchugumut. E. W. Nelson. 37007.
"HANDLE." Chalitmut. E. W. Nelson. 37319.
CARVED ORNAMENT. Anogogumut. E. W. Nelson. 37431.
SPEAR GUARD. Anogogumut. E. W. Nelson. 37461.
CARVING OF SEAL. Unalakleet. E. W. Nelson. 37610.
IMPLEMENT. Konigunogumut. E. W. Nelson. 37664.
BODKIN. Chalitmut. E. W. Nelson. 37752. An ivory handle with steel point and ivory links. Ornamented with concentric rings and flower symbols. Plate 41, fig. 6.
SPEAR GUARD. Chalitmut. E. W. Nelson. 37759.
BUCKLE. Kongigunogumut. E. W. Nelson. 37763.
EAR PENDANTS. Spugunugumut. E. W. Nelson. 38052.
BONE SEINE NEEDLE. Lower Yukon. E. W. Nelson. 38318.
HARPOON HEAD. Shaktolik. 38440.
BONE SEINE NEEDLE. Fort Yukon. E. W. Nelson. 38501.
HAT ORNAMENT. Kushunuk. E. W. Nelson. 38720.
"HUNTING TALLY." Point Barrow. Lieutenant P. H. Ray, U. S. A. 89487. Plate 58, fig. 1.
THIMBLE GUARD. St. Michaels. E. W. Nelson. 43459. Plate 35, fig. 1.
TOY FISH. Cape Vancouver. E. W. Nelson. 43593. Bone fish 1¼ inches in length, flattened with pictograph of wolf (?) and trident figure, also other ornament upon upper side, with human figure below.
IVORY WEDGE. Nunevak Island. E. W. Nelson. 43738.
THIMBLE GUARD. Unalakleet. E. W. Nelson. 43861. Plate 35, fig. 6.
HARPOON HEAD. "Alaska." E. W. Nelson. 43949.
SCRAPER. Cape Darby. E. W. Nelson. 44180.
WOODEN BOX. Cape Nome. E. W. Nelson. 44457.
TOBACCO BOX. Sledge Island. E. W. Nelson. 44766.

IVORY GAMBLING STICKS. Sledge Island. E. W. Nelson. 45006. These have very thin lines engraved upon them, not with any reference to the value of the sticks, but made probably during an interval of idleness to while away time. The characters represent rudely and carelessly drawn habitations, while in one instance they are the outlines of human pigmies.

CREASER. Sledge Island. E. W. Nelson. 45140.

SAW. Port Clarence. T. H. Bean. 46145. Plate 17, fig. 1.

COMB. Cape Prince of Wales. E. W. Nelson. 48174.

WEDGE. Nunevak Island. E. W. Nelson. 48289. Ivory "splitter or wedge" for splitting small pieces of wood.

FUNGUS ASH BOX. Kotzebue Sound. E. W. Nelson. 48558.

NETTING SHUTTLE. Lower Yukon. E. W. Nelson. 48715.

CARVING OF FLOUNDER. Unalaklect. E. W. Nelson. 43786.

IVORY ROD. Kotzebue Sound. E. W. Nelson. 48532. This specimen is pointed at one end and has perforation at the other. Three sides are decorated in deep black stained characters of various marine animals. The spaces between some of the objects are filled in with nucleated circles.

EFFIGY OF SEAL. Kotzebue Sound. (?) 48642.

ORNAMENT. Bristol Bay. C. L. McKay. 55909. Effigy of seal, with rings and bristles inserted by means of pegs.

IVORY FISH. Point Barrow. Lieutenant P. H. Ray, U. S. A. 56578.

THREAD CASE. [Locality ?] Lieutenant P. H. Ray, U. S. A. 56615.

"MOUTHPIECE." Diomede Islands. E. W. Nelson. 63666.

"MOUTHPIECE." Diomede Islands. E. W. Nelson. 63667.

BOX FOR SNUFF. Hotham Inlet. E. W. Nelson. 64186.

EFFIGY OF WALRUS. Nashagak. E. L. McKay. 72904.

HOUSE HOOK. Alaska (?). C. L. McKay. 73034.

"BONE SKIN DRESSER." Sitka. John J. McLean. 74954.

ARROW STRAIGHTENER. Kowak River. Lieutenant G. M. Stoney, U. S. N. 127893.

POWDER HORN. St. Michaels. L. M. Turner. 129221.

PICTOGRAPH ON BONE. St. Michaels. L. M. Turner. 129277.

ORNAMENTED IVORY ROD. St. Michaels. L. M. Turner. 129284.

THIMBLE HOLDER. St. Michaels. E. W. Nelson. 129314.

MONEY BOX OF BONE. Hupa Islands. J. Curtin. 131159.

IVORY PENDANT. Nunevak Island. E. W. Turner. 16199.

BONE SKIN DRESSER. Thlingit Islands. Lieutenant G. F. Emmons, U. S. N. 168358.

BONE SKIN DRESSER. Thlingit Islands. Lieutenant G. F. Emmons, U. S. N. 168360.

BONE ORNAMENTS. Thlinkit. Lieutenant G. F. Emmons, U. S. N. 168372.

DAGGER SHEATH. Tangier, Morocco. Lieutenant A. P. Niblack, U. S. N. 168827. Plate 44.

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